KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C350

Includes:
Standard Controller
DF-601
PC-101/PC-201
PC-401
AD-501
FS-501
FS-601

2004.03
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this Service Manual is complete and accurate.
The user of this Service Manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this Service Manual is intended.
Therefore, this Service Manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this Service Manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions " ⚠ DANGER", " ⚠ WARNING", and " ⚠ CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

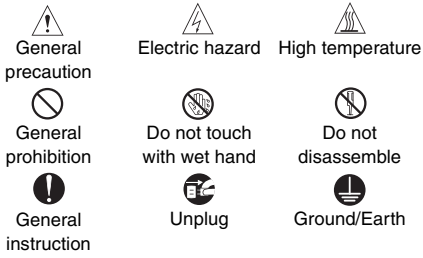
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when servicing the product.

⃠ :Prohibition when servicing the product.

● :Direction when servicing the product.



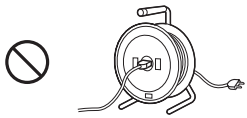
SAFETY WARNINGS

[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

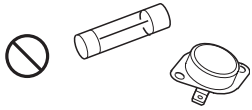
KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

⚠ DANGER : PROHIBITED ACTIONS

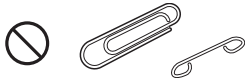
- Using any cables or power cord not specified by KMBT.



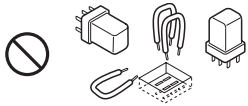
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



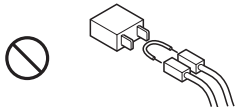
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

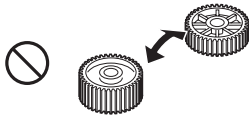


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



[2] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

Konica Minolta brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

⚠ WARNING: Wall Outlet

- Check that mains voltage is as specified. Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.

  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

  If excessive current flows in the wall outlet, fire may result.

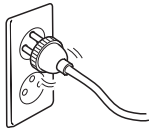
⚠ WARNING: Power Plug and Cord

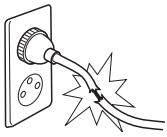
- Make sure the power cord is plugged in the wall outlet securely.

  Contact problems may lead to increased resistance, overheating, and the risk of fire.

- Check whether the power cord is damaged. Check whether the sheath is damaged.

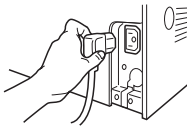
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.

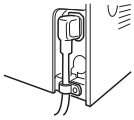




⚠ WARNING: Power Plug and Cord

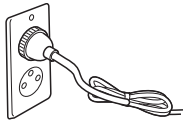
- When using the power cord (inlet type) that came with this product, be sure to observe the following precautions:
  a. Make sure the connector is securely inserted in the inlet on the rear panel of the product.
  Secure the cord with a fixture properly.
  b. If the power cord or sheath is damaged, replace with a new power cord (with plugs on both ends) specified by KMBT.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



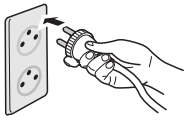


- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.

- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

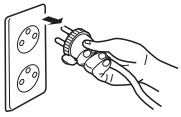


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



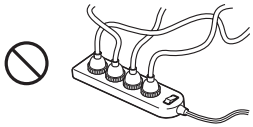
- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



⚠ WARNING: Wiring

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used, the risk of fire exists.



⚠ WARNING: Wiring

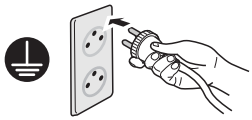
- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

  Do not use an extension cable reel with the cable taken up. Fire may result.

⚠ WARNING: Ground Connection

- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product. Connect power plug to grounded wall outlet.



2. Installation Requirements

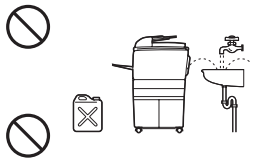
⚠ WARNING: Prohibited Installation Places

- Do not place the product near flammable materials or volatile materials that may catch fire.

  A risk of fire exists.

- Do not place the product in a place exposed to water such as rain.

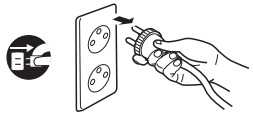
  A risk of fire and electric shock exists.



⚠ WARNING: When not Using the Product for a long time

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.

  Dust collected around the power plug and outlet may cause fire.

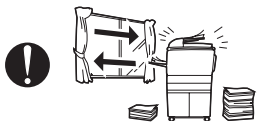


⚠ CAUTION: Ventilation

- The product generates ozone gas during operation, but it will not be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time



⚠ CAUTION: Stability

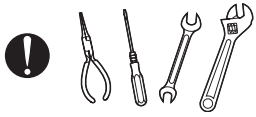
- Be sure to lock the caster stoppers.

  In the case of an earthquake and so on, the product may slide, leading to a injury.

⚠ CAUTION: Inspection before Servicing

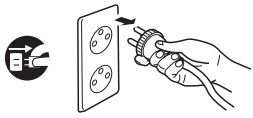
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.



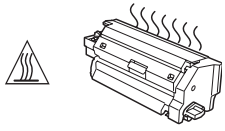
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



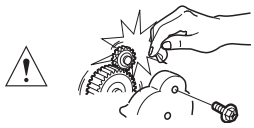
- The area around the fixing unit is hot.

  You may get burnt.



⚠ WARNING: Work Performed with the Product Powered On

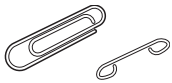
- Take every care when making adjustments or performing an operation check with the product powered.
  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.
  High-voltage exists around the drum unit. A risk of electric shock exists.

⚠ WARNING: Safety Checkpoints

- Check the exterior and frame for edges, burrs, and other damages.
  The user or CE may be injured.
- Do not allow any metal parts such as clips, staples, and screws to fall into the product.
  They can short internal circuits and cause electric shock or fire.



- Check wiring for squeezing and any other damage.
  Current can leak, leading to a risk of electric shock or fire.
- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Current can leak, leading to a risk of product trouble or fire.
- Check high-voltage cables and sheaths for any damage.
  Current can leak, leading to a risk of electric shock or fire.

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.
  Current can leak, leading to a risk of trouble or fire.

⚠ WARNING: Safety Checkpoints

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.

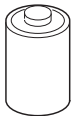
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

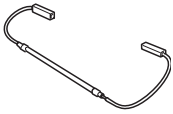
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



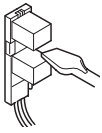
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

  A risk of fire exists.



- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Current can leak, leading to a risk of electric shock or fire.

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, electric shock, and fire exists.

⚠ WARNING: HANDLING OF CONSUMABLES

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

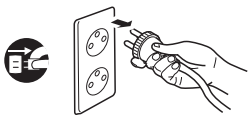
- Never throw the used cartridge and toner into fire.

  You may be burned due to dust explosion.

⚠ CAUTION: HANDLING OF SERVICE MATERIALS

- Unplug the power cord from the wall outlet.

  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

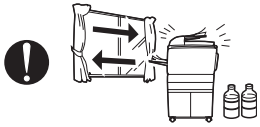
  A risk of fire exists.

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

  A risk of fire exists.

- When using any solvent, ventilate the room well.

  Breathing large quantities of organic solvents can lead to discomfort.



[3] MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KMBT must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KMBT.

[4] CONCLUSION

1. Safety of users and customer engineers depends highly on accurate maintenance and administration. Therefore, safety can be maintained by the appropriate daily service work conducted by the customer engineer.
2. When performing service, each product on the site must be tested for safety. The customer engineer must verify the safety of parts and ensure appropriate management of the equipment.

[5] FUSE

CAUTION
Double pole / neutral fusing

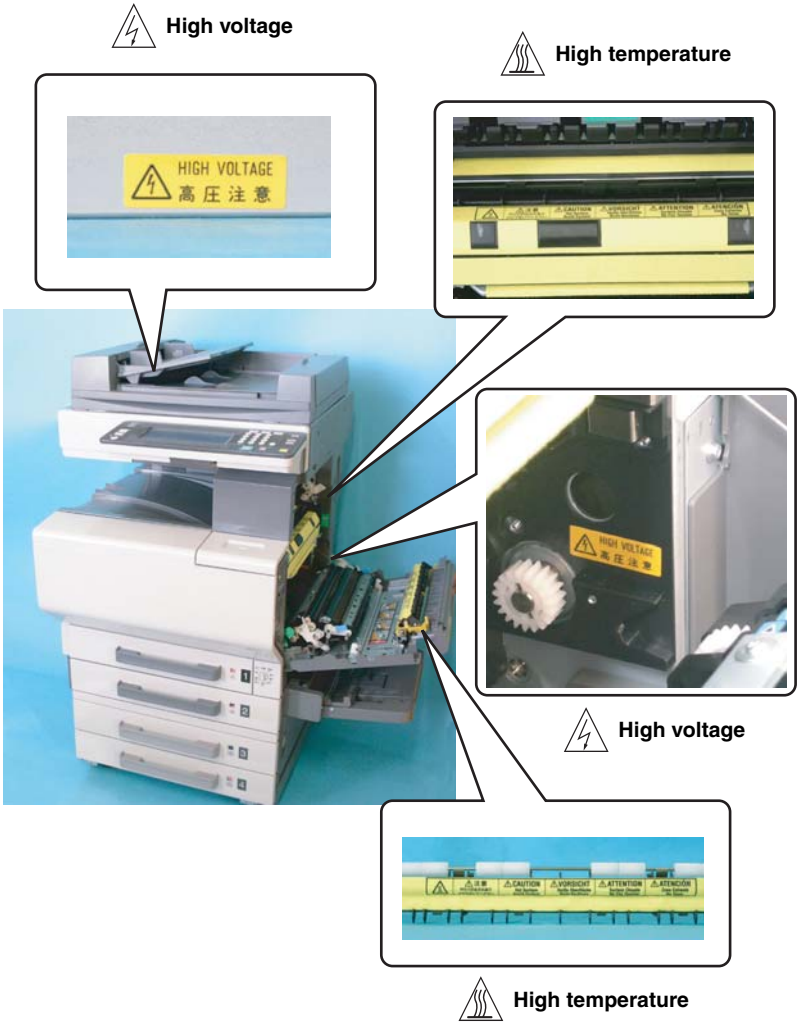
ATTENTION
Double pôle / fusible sur le neutre.

[6] LED Radiation Safety

- This product is a copier which operates by means of a LED (light emitting diodes) exposure system. There is no possibility of danger from the LED optical radiation, because the LED optical radiation level dose not exceed the accessible radiation limit of class 1 under all conditions of operation, maintenance, service and failure.

WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.



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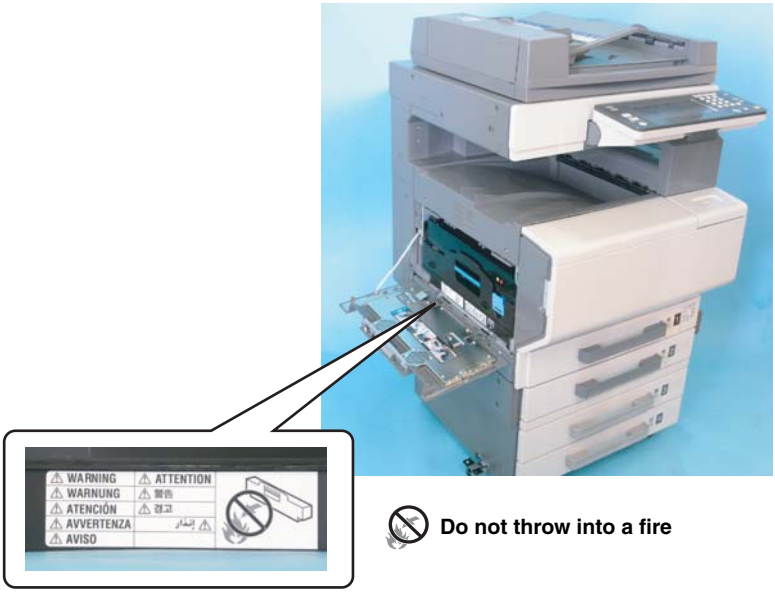

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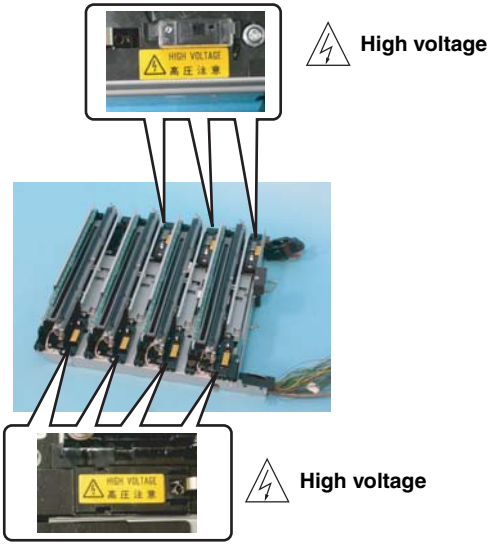

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C350

Main Unit

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
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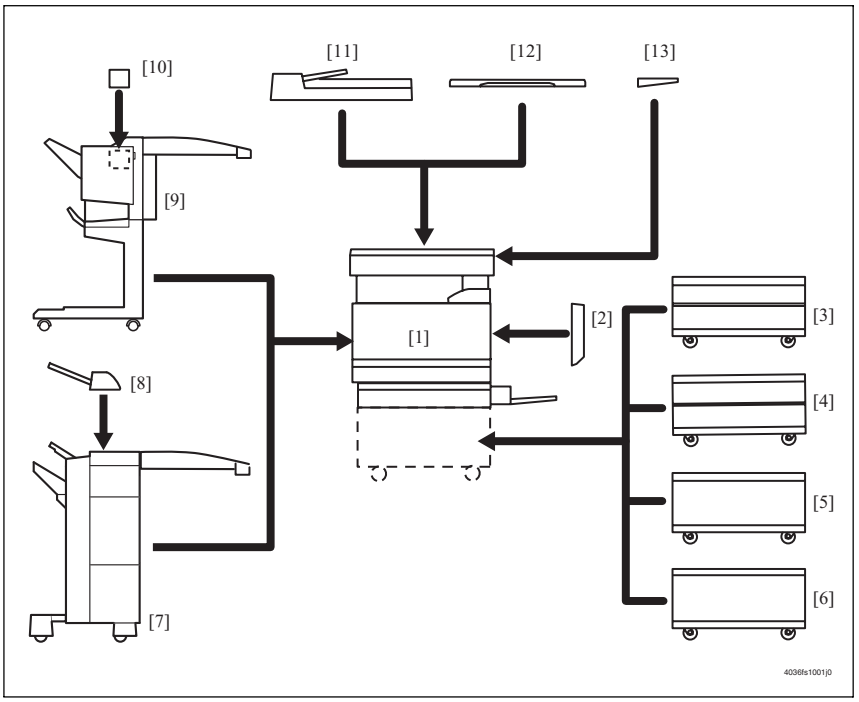
I General

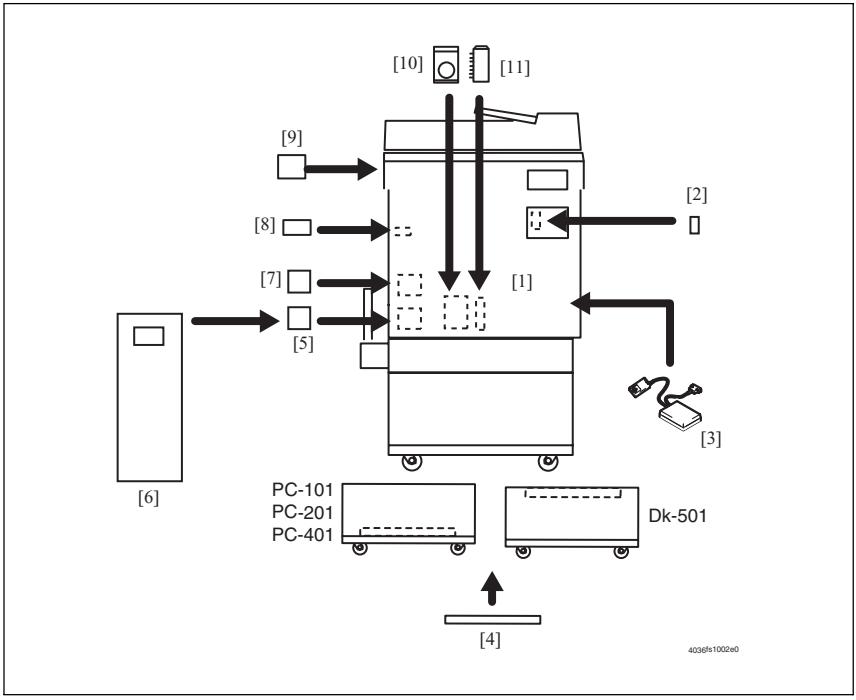
1. System configuration

1/2 System Front View



[1] Machine
[2] Automatic Duplex Unit AD-501
[3] Paper Feed Cabinet PC-201
[4] Paper Feed Cabinet PC-101
[5] Desk DK-501
[6] Paper Feed Cabinet PC-401
[7] Finisher FS-501
[8] Job Separator JS-601
[9] Finisher FS-601
[10] Punch Kit PK-501 for FS-601
[11] Reverse Automatic Document Feeder DF-601
[12] Original Cover OC-501
[13] Working Table WT-501

2/2 System Rear View



[1] Machine

[2] Vender Kit VK-501
(South Central America, North America, Europe Only)

[3] Data Terminal DT-105
(South Central America, North America Only)

[4] Dehumidifier Heater 1C

[5] Video Interface Kit VI-501

[6] Image Controller IC-401

[7] Local Interface Kit EK-501

[8] Mechanical Counter

[9] Key Counter Kit KIT-1

[10] Hard Disk HD-501

[11] Expanded Memory Unit EM-301

2. Product specifications

2.1 Type

Type	Desktop-type printer integrated with scanner
Copying System	Electrostatic dry-powdered image transfer to plain paper
Printing Process	Tandem-type indirect electrostatic recording system
PC Drum Type	OPC (organic photo conductor)
Scanning Density	Equivalent to 600 dpi
Print Density	Equivalent to 600 dpi in main scanning direction × 1800 dpi in sub scanning direction
Platen	Stationary (mirror scan)
Original Scanning	Scanning in main scanning direction with a CCD (one-shot reading system)
Registration	Rear left edge
Paper Feeding System (Standard) Three-way system	Multiple Bypass: 150 sheets Tray1: 250 sheets Tray2: 500 sheets
Exposure System	Four-LED exposure
Developing System	HMT developing system
Charging System	DC comb electrode Scorotron system with electrode cleaning function (manual)
Image Transfer System	Intermediate transfer belt system
Paper Separating System	Selecting either application of nonwoven fabric bias or resistor grounding + low-pressure paper separator claws
Fusing System	Belt fusing

2.2 Functions

Types of Original	Sheets, books, and three-dimensional objects	
Max. Original Size	A3 or 11 × 17	
Multiple Copies	1 to 999	
Warming-up Time	99 sec. or less (at ambient temperature of 23 °C and rated source voltage)	
Image Loss	Leading edge: 5 mm, Trailing edge: 3 mm, Rear edge: 3 mm, Front edge: 3 mm	
First Copy Time	(Tray1, A4, full size)	
	Monochrome print	6.8 sec. or less
	Color print	12.8 sec. or less
Copying Speed for Multi-copy Cycle (A4, 8-1/2 × 11)	Monochrome print	1-sided: 35 copies/min; 2-sided: 31 copies/min
	Color print	1-sided: 22 copies/min; 2-sided: 22 copies/min
Fixed Zoom Ratios	Full size	×1.000
	Reduction	Metric Area: ×0.500, ×0.707, ×0.816, ×0.866 Inch Area: ×0.500, ×0.647, ×0.733, ×0.785
	Enlargement	Metric Area: ×1.154, ×1.224, ×1.414, ×2.000 Inch Area: ×1.214, ×1.294, ×1.547, ×2.000
Variable Zoom Ratios	×0.250 to ×4.000	in 0.001 increments
Exposure Lamp	White rare-gas fluorescent lamp 30 W	

2.3 Types of Paper

Paper Source		Tray1	Tray2	Multiple Bypass
Copy paper type	Plain paper (60 to 90 g/m²)	❍	❍	❍
	Translucent paper	–	–	–
	OHP transparencies (crosswise feeding only)	❍ (20 sheets or less)	–	❍ (20 sheets or less)
	Thick paper 1 (91 to 150 g/m²)		–	
	Thick paper 2 (151 to 209 g/m²)		–	
	Thick paper 3 (210 to 256 g/m²) *1		–	
	Postcards		–	
	Envelopes		–	❍ (10 sheets or less)
	Labels		–	❍ (20 sheets or less)
Copy paper dimensions	Max (width × length)	311 × 457 mm	297 × 432 mm	311 × 457 mm
	Min (width × length)	90 × 140 mm	140 × 182 mm	90 × 140 mm

*1: Image is not guaranteed when thick paper 3 is used.
Optional Paper Feed Cabinet: Only the plain paper weighing 60 to 90 g/m² is reliably fed.
Automatic Duplex Unit: Only the plain paper weighing 64 to 90 g/m² is reliably fed.

2.4 Maintenance

Machine Durability	800,000 prints or 5 years, whichever is earlier

2.5 Machine Specifications

Power Requirements	Voltage:	AC110 V, 120 V, 127 V, 220-240 V
	Frequency:	50/60 Hz ±3.0 Hz
Max Power Consumption		Less than 1.45 kW (120 V, 12 A) / 1.55 kW (220-240 V, 6.7 A)
Dimensions		903 (W) × 730 (D) × 770 (H) mm
Space Requirements		1014 (W) × 1151 (D) mm
Mass		Approx. 104 kg (without IU)

2.6 Operating Environment

Temperature	10 to 30 °C (with a fluctuation of 10 °C/h)
Humidity	15 to 85 % (with a fluctuation of 20 %/h)

2.7 Built-in Controllers

Printer Driver	PCL5c printer driver
Scan Driver	TWAIN driver
OS Compatibility	Windows 98/Me, Windows NT/2000/XP, Windows Server 2003
Interface	Ethernet 10/100BaseTX

NOTE

- **These specifications are subject to change without notice.**

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II Maintenance

1. Periodical check

1.1 Service schedule

Guarantee period (5-year or 800,000 prints)

	Per cycle × print number	× 10,000-print																Number of times
		6	12	15	18	20	24	30	36	40	42	45	48	54	60	66	72	75	
Main body	Upon each call (60,000)	●	●		●		●	●	●		●		●	●	●	●	●		12
	150,000			●				●				●			●			●	5
	200,000					●				●					●				3
	300,000							●							●				2
PC-101 PC-201 PC-401	300,000							●							●				2
FS-501 FS-601	300,000							●							●				2
DF-601	200,000 *1					●				●					●				3

*1: Replace with reference to the “ADF Feed” on the “Counter” → “Life”.

1.2 Maintenance items

1.2.1 Parts to be replaced by users (CRU)

⚠1 No.	Class	Parts to be replaced	Cycle	Clean	Replace	Descriptions
1	Processing sections	Imaging Unit C/M/Y	50 K		●	
2		Imaging Unit Bk	80 K		●	
3		Comb electrode	When TC is replaced	●		
4		Toner cartridge: TC (TC Y/TC M/TC C)	11.5 K		●	
5		Toner cartridge: TC (TC K)	11.5 K		●	*1
6		Deodorant filter	11.5 K		●	*1
7	Image Transfer section	Waste Toner Bottle	30 K		●	
8	LPH section	LPH Assy	When IU is replaced	●		

*1: The TC K and Deodorant filter are the Kit parts.

1.2.2 Maintenance call (per 60,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Transport section	Synchronizing Roller			●			
4		Paper Dust Remover			●			
5		Transport Roller			●			
6		2nd Image Transfer Entrance Upper Guide			●			
7	Image Transfer section	Around waste toner port			●			
8	LPH section	LPH Assy			●			
9	DF-601	Pick-up Roller			●			
10		Paper Take-up Roller			●			
11		Separation Roller			●			
12		Transport Belt, Roller and Roll			●			
13	AD-501	DUP Roller			●			

1.2.3 Periodical parts replacement 1 (per 150,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Transport section	Paper Dust Remover	1			●		
4		2nd Image Transfer Roller Unit	1			●		
5	Processing section	Ozone Filter	1			●		

1.2.4 Periodical parts replacement 2 (per 200,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Tray 1 Bypass	Paper Take-up Roller	1			●		
4		Separation Roller	1			●		
5	DF-601	Pick-up Roller	1			●		*1
6		Paper Take-up Roller	1			●		*1
7		Separation Roller				●		*1

*1: Replace with reference to the “ADF Feed” on the “Counter” → “Life”.

1.2.5 Periodical parts replacement 3 (per 300,000-print)

No.	Class	Parts to be replaced	Number of personnel	Check	Clean	Replace	Lubrication	Descriptions
1	Overall	Paper take-up and image conditions		●				
2		Appearance		●	●			
3	Tray 2	Pick-up Roller	1			●		
4		Paper Take-up Roller	1			●		
5		Separation Roller Assy	1			●		
6	Image Transfer section	Image Transfer Belt Unit	1			●		
7	Fusing section	Fusing Unit	1			●		
8	PC-101 PC-201 PC-401	Pick-up Roller	1			●		
9		Paper Take-up Roller	1			●		
10		Separation Roller Assy	1			●		
11	FS-501 FS-601	Paper Feed Roller, Roll			●			
12		Transport route, Guide			●			
13		Sensor			●			

1.3 Maintenance parts

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the Life counter.
- Maintenance conditions are based on the case of A4 or 8.5 × 11, Standard mode and Preheat OFF.

A. Main body

No.	Classification	Parts name	Quantity	Actual durable cycle	Descriptions	Ref.Page in this manual
1	Tray 1 Bypass	Paper Take-up Roller	1	200 K		☞ 2-7
2		Separation Roller Assy	1	200 K		☞ 2-7
3	Tray 2	Pick-up Roller	1	300 K		☞ 2-13
4		Paper Take-up Roller	1	300 K		☞ 2-10
5		Separation Roller Assy	1	300 K		☞ 2-7
6	Transport section	Paper Dust Remover	1	150 K		☞ 2-15
7		2nd Image Transfer Roller Unit	1	150 K		☞ 2-22
8	Fusing section	Fusing Unit	1	300 K		☞ 2-28
9	EP section	Imaging Unit C/M/Y	1	50 K		☞ 2-30
10		Imaging Unit Bk	1	80 K		☞ 2-30
11		Ozone Filter	1	150 K		☞ 2-20
12		Toner Cartridge (YMCK)	1	11.5 K	Deodorant filter *1	☞ 2-30
13	Image transfer section	Image Transfer Belt Unit	1	300 K		☞ 2-23
14		Waste Toner Bottle	1	30 K		☞ 2-19

*1: Also replace the Deodorant filter packed in the black toner cartridge at the same time when 11.5 K is reached.

B. Option

No.	Classification	Parts name	Quantity	Actual durable cycle	Descriptions	Ref.Page in this manual
1	DF-601	Pick-up Roller	1	200 K	Replace those three parts at the same time. *1	See each Option Service Manual.
2		Paper Take-up Roller	1	200 K		
3		Separation Roller	1	200 K		
4	PC-101 PC-201 PC-401	Pick-up Roller	1	300 K		
5		Paper Take-up Roller	1	300 K	Replace those two parts at the same time.	
6		Separation Roller Assy	1	300 K		

*1: Replace with reference to the “ADF Feed” on the “Counter” → “Life”.

1.4 Concept of parts life

	Description	Life value (Specification value)	Max. number of printed pages
Waste Toner Bottle	A waste toner full condition is detected when about 8,000 printed pages have been produced after a waste toner near full condition has been detected.	–	30,000 *
Fusing unit	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.) When printing prohibited is encountered, the machine prohibits the initiation of any new print cycle.	300,000	382,000 *
Paper Dust Remover	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150,000	152,000
Ozone Filter	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150,000	152,000
2nd Transfer Roller Unit	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150,000	152,000
Transfer Belt Unit	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.) The number of copies made is compared with the value of the number of hours through which the belt has turned translated to a corresponding value of the number of copies made and the value, whichever reaches the life specifications value, is detected. When printing prohibited is encountered, the machine prohibits the initiation of any new print cycle.	300,000	382,000 *
Imaging Unit C/M/Y	The number of hours through which the PC Drum has turned is compared with the number of hours through which the Developing Roller has turned translated to a corresponding value of the number of hours through which the PC Drum has turned and the value, whichever reaches the life specifications value, is detected.	5,725 min	5,955 min *
Imaging Unit Bk		5,916 min	6,064 min *

*: The initiation of any new print cycle is inhibited when the maximum number of printed pages is reached.

A. Conditions for Life Specifications Values

- The life specification values represent the number of copies made or figures equivalent to it when given conditions (see the Table given below) are met. They can be more or less depending on the machine operating conditions of each individual user.

Item	Description
Job Type	Monochrome: Making 4 copies per job Color: Making 2 copies per job
Paper Size	A4
Color Ratio	Black to Color=5:1
CV/M	Black: 8,000 / Color: 1,600
Original Density	B/W = 5 % for each color, 6 % for Monochrome
No. of Operating Days per Month	20 days (Power Switch turned ON and OFF 20 times per month)

B. Control causing inhibited printing for one part when an inhibited-printing event occurs in another part

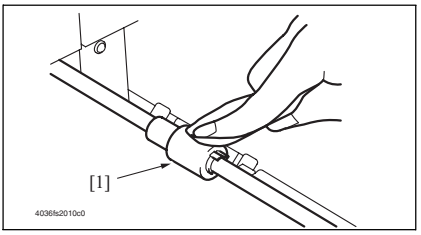
Purpose	In order to reduce the maintenance call times: when printing prohibiting is reached for any of the following parts, make printing prohibited also for other parts whose life value is reached, and replace those parts at the same time.
Target parts	Fusing unit, Image Transfer Belt Unit, Imaging Unit /C, Imaging Unit /M, Imaging Unit /Y, Imaging Unit /Bk

1.5 Maintenance procedure (Periodical check parts)

NOTE

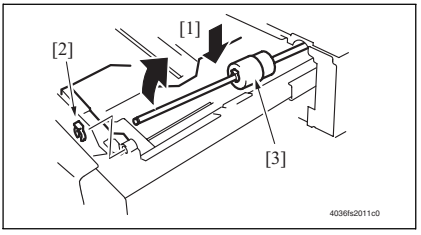
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

1.5.1 Paper Take-up Roller



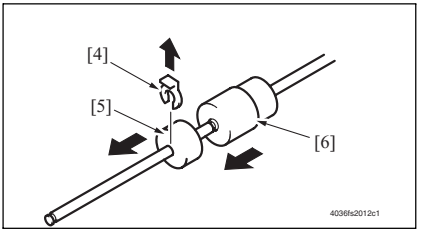
A. Cleaning Procedure

1. Slide out the Tray 1.
2. Using a soft cloth dampened with alcohol, wipe the Paper Take-Up Roller [1] clean of dirt.



B. Replacing Procedure

1. Slide out the Tray 1.
2. Lock the Paper Lifting Plate [1] into position.
3. Snap off the C-clip [2] from the Paper Take-Up Roller Assy [3].
4. Slide the Paper Take-Up Roller Assy [3] to the rear and take its shaft off the front bushing.

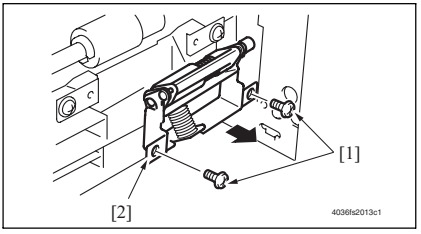


5. Snap off the C-clip [4], one collar [5] and remove the Paper Take-Up Roller [6].
6. To reinstall, reverse the order of removal.
7. Select “Tech. Rep. Mode”→ “Counter” → “Life” and clear the count of “1st” or “2nd”.

NOTE

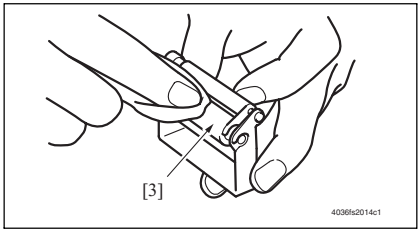
- **Replace the Paper Take-up Roller and Separation Roller at the same time.**

1.5.2 Separation Roller

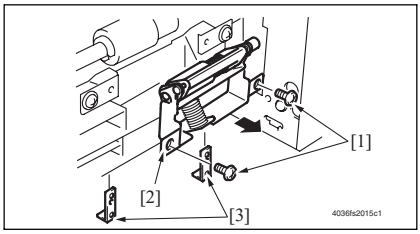


A. Cleaning Procedure

1. Slide out the Tray 1.
2. Remove two screws [1] and the Paper Separation Roller mounting bracket Assy [2].



3. Using a soft cloth dampened with alcohol, wipe the Separation Roller [3] clean of dirt.

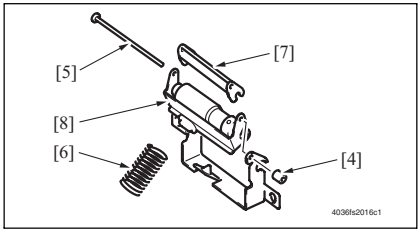


B. Replacing Procedure

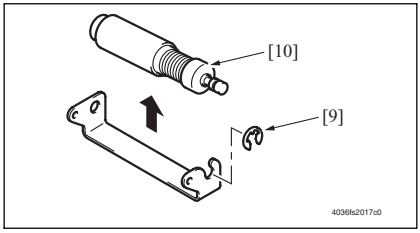
1. Slide out the Tray 1.
2. Remove two screws [1] and the Separation Roller mounting bracket Assy [2] and two reinforcement plates [3].

NOTES

- Receive by hand the reinforcement plate that will come off position when the screws are removed.
- When reinstalling the reinforcement plate, make sure that it is doweled into position.

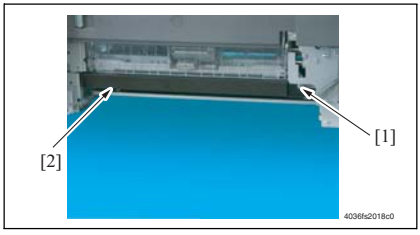


3. Take off the rubber stopper [4], shaft [5], spring [6], and guide plate [7] to remove the Paper Separation Roller fixing bracket Assy [8].



4. Snap off the E-ring [9] and the Paper Separation Roller Assy [10].
5. To reinstall, reverse the order of removal.
6. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “1st.”

1.5.3 Separation Roller 2

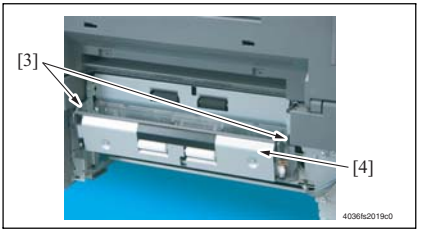


A. Cleaning Procedure

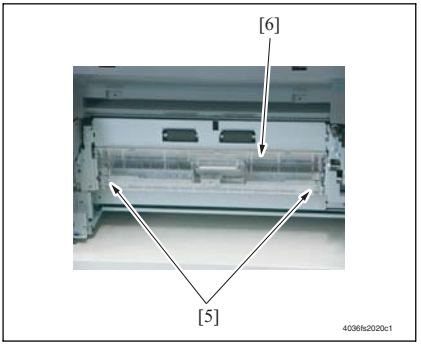
1. Slide out the Tray 2.

☞ 2-58

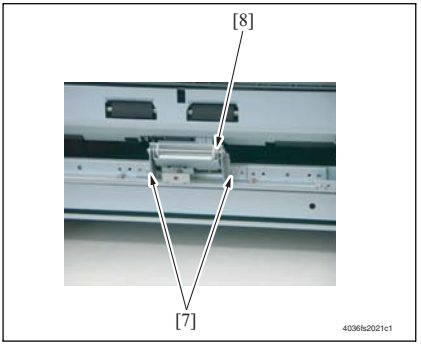
2. Remove the Multi Bypass unit.
3. Remove the Screw [1], and the Reinforcement plate [2].



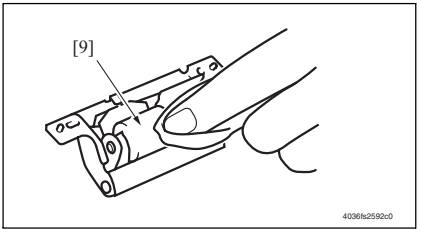
4. Open the Vertical transport door.
5. Remove two Claws [3] and the Vertical transport door [4].



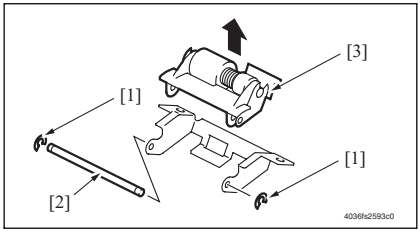
6. Remove two Screws [5], and remove the Jam processing cover [6].



7. Remove two Screws [7] and the Separation Roller 2 installation plate Assy [8].



8. Using a soft cloth dampened with alcohol, wipe the Separation Roller [9].



B. Replacing Procedure

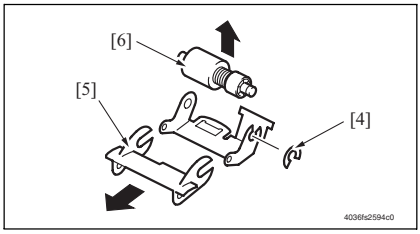
1. Remove the Separation Roller 2 installation plate Assy.

☞ See the procedures 1 to 7 in 2-8 “Cleaning of Separation Roller”.

2. Remove two C-rings [1] and the Shaft [2], and remove the Separation Roller fixing plate Assy [3].

NOTE

- **Use care not to miss the Spring.**



3. Remove the C-ring [4] and Guide [5], and remove the Separation Roller Assy 2 [6].

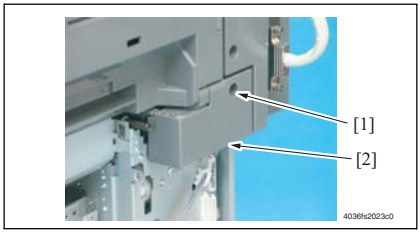
1.5.4 Paper Take-up Roller

A. Cleaning Procedure

1. Remove the Separation Roller 2 installation plate Assy.

☞ See the procedures 1 to 7 in 2-8 “Cleaning of Separation Roller”.

2. Using a soft cloth dampened with alcohol, wipe the Paper Take-up Roller [1].

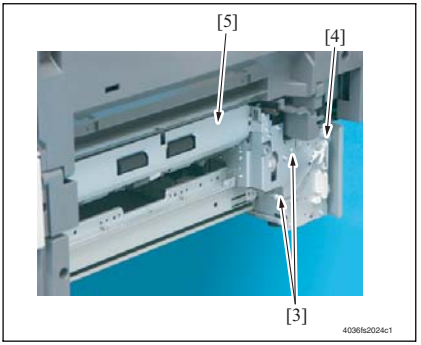


B. Replacing Procedure

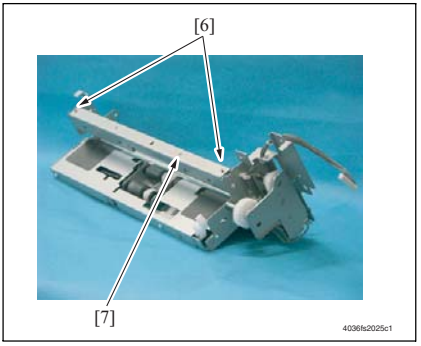
1. Remove the Separation Roller 2 installation plate Assy.

☞ See the procedures 1 to 7 in 2-8 “Cleaning of Separation Roller”.

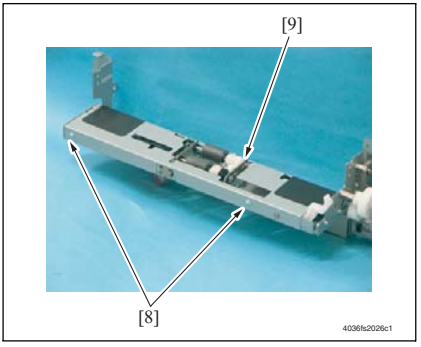
2. Remove the Screw [1] and Wiring cover [2].



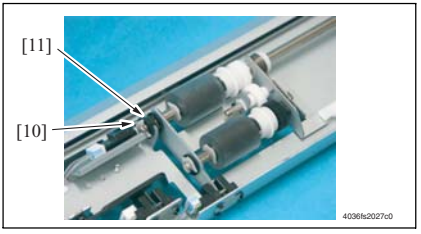
3. Remove two Screws [3] and Connector [4], and remove the Paper Take-up Roller Assy [5].



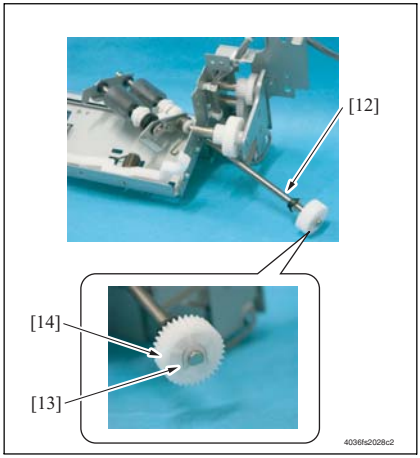
4. Remove two Screws [6] and the Installation flame [7] of the Separation Roller 2 installation plate Assy.



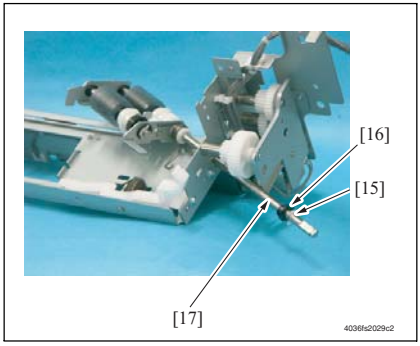
5. Remove two Screws [8] and Paper Take-up Roller cover [9].



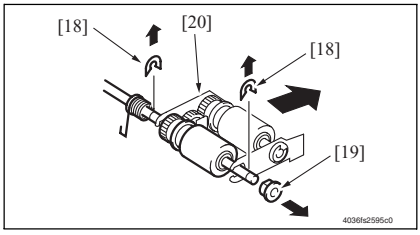
6. Remove the C-ring [10] and Bushing [11].



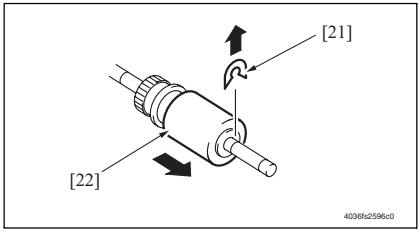
7. Remove the C-ring [13] and Gear [14] while sliding out the Shaft Assy [12] in the direction indicated in left figure.



8. Remove the C-ring [15] and Bushing [16], and remove the Shaft Assy [17].



9. Remove two E-rings [18] and Bushing [19], and remove the Pick-up Roller fixing plate Assy [20].



10. Remove the C-ring [21] and Paper Take-up Roller [22].

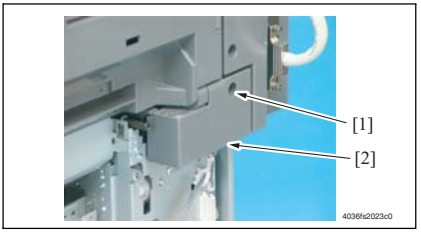
1.5.5 Pick-up Roller

A. Cleaning Procedure

1. Remove the Separation Roller 2 installation plate Assy.

☞ See the procedures 1 to 7 in 2-8 “Cleaning of Separation Roller 2”.

2. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1].

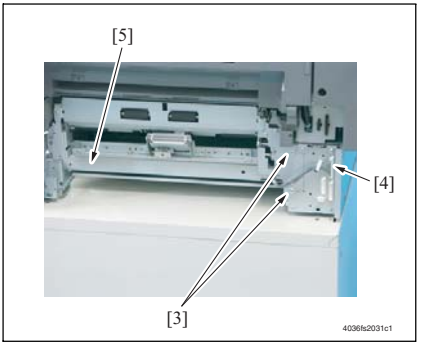


B. Replacing Procedure

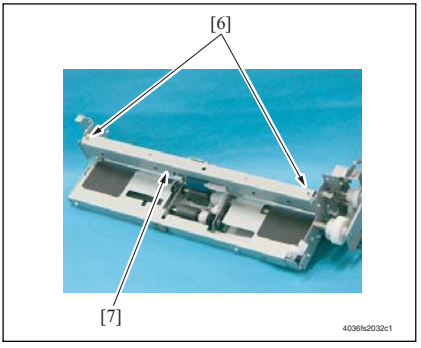
1. Remove the Jam processing cover.

☞ 2-8

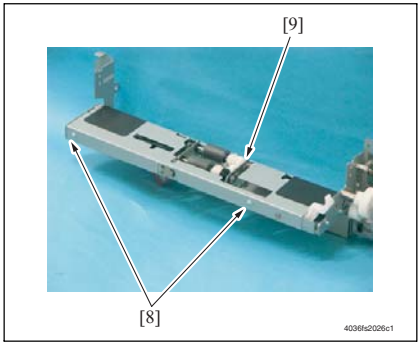
2. Remove the Screw [1] and Wiring cover [2].



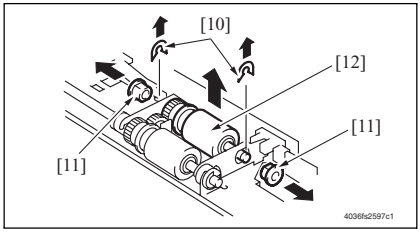
3. Remove two Screws [3] and Connector [4], and remove the Paper Take-up Roller Assy [5].



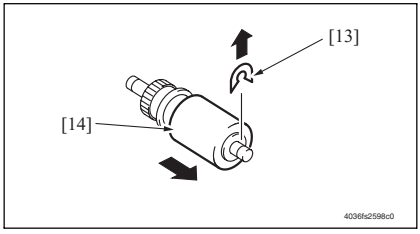
4. Remove two Screws [6], and remove the Separation Roller 2 installation plate Assy [7] together with Frame.



5. Remove two Screws [8] and Paper Take-up Roller cover [9].



6. Remove two C-rings [10] and two Bushings [11], and remove the Pick-up Roller Assy [12].



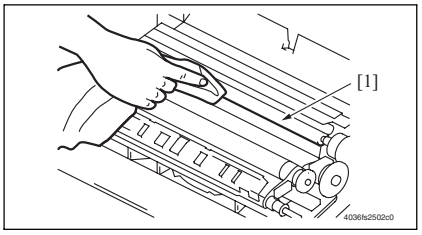
7. Snap off the C-ring [13], and remove the Pick-up Roller [14].

1.5.6 Transport Roller

A. Cleaning Procedure

1. Open the Vertical transport door.
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller [1].

1.5.7 Cleaning of Synchronizing Roller

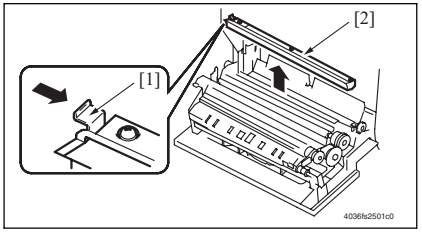


1. Open the Right Door.
2. Remove the Paper Dust Remover.

☞ See 2-15 for Replacing the Paper Dust Remover.

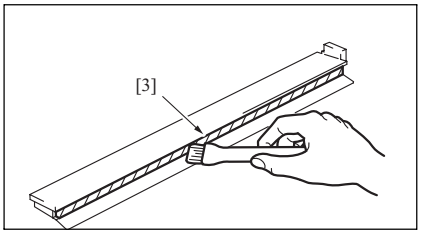
3. Using a soft cloth dampened with alcohol, wipe the Synchronizing Rollers [1] clean of dirt.

1.5.8 Paper Dust Remover

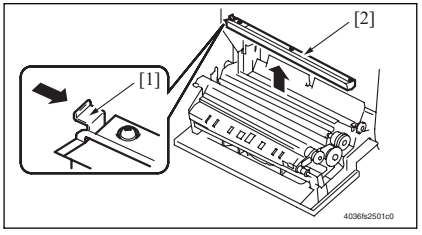


A. Cleaning Procedure

1. Open the Right Door.
2. Pushing the hook [1] with a blue label inward, remove the Paper Dust Remover [2].



3. Using a brush, whisk dust off the Paper Dust Remover [3].



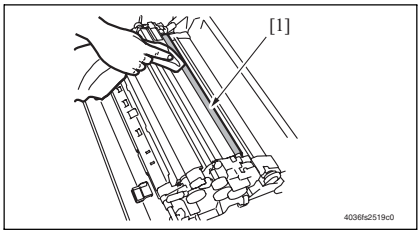
B. Replacing Procedure

1. Open the Right Door.
2. Pushing the hook [1] with a blue label inward, remove the Paper Dust Remover [2].
3. Remove the Ozone Filter.

☞ 2-20

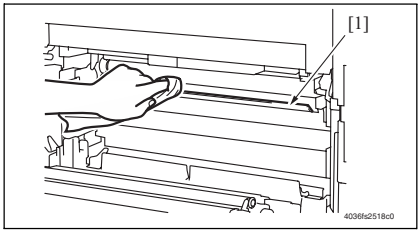
4. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “Paper Powder Filter/Ozone Filter.”

1.5.9 Cleaning of Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller [1] clean of dirt.

1.5.10 Cleaning of 2nd Image Transfer Entrance Upper Guide



1. Open the Right Door.
2. Open the Left Door.
3. Remove the Waste Toner Bottle.

☞ 2-30

4. Remove two screws and slide the Transfer Belt Unit out halfway.

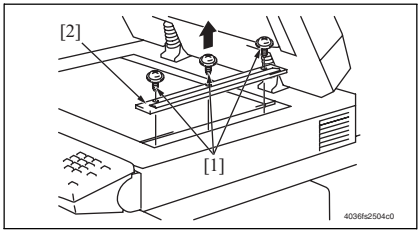
☞ 2-23

5. Wipe the 2nd Image Transfer Entrance Upper Guide [1] clean of dirt using a soft cloth.

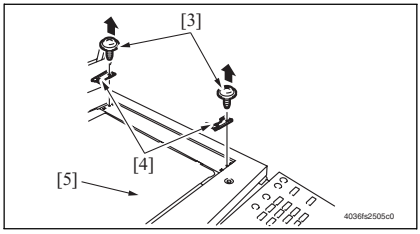
NOTE

- **When cleaning, use care not to be hurt by the leading edge of the guide that is sharp.**

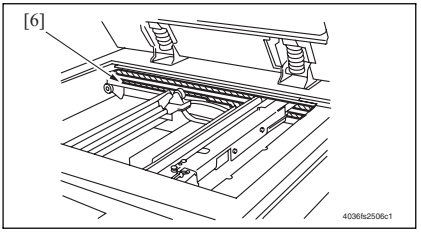
1.5.11 Cleaning of Scanner Rail



1. Remove three screws [1] and the IR Upper Right Cover [2].



2. Remove two screws [3] and two Original Glass fixing brackets [4] (at the front and rear).
3. Remove the Original Glass [5].

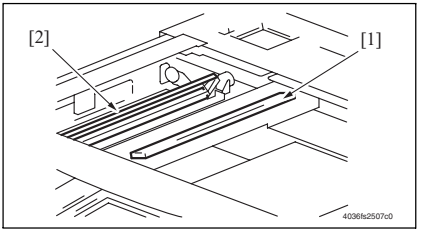


4. Using a soft cloth dampened with alcohol, wipe the Scanner Rails [6] clean of dirt.

NOTE

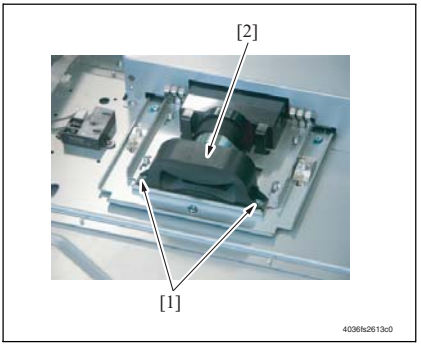
- **Apply lubricant after cleaning.**

1.5.12 Cleaning of the Mirrors (1st/2nd/3rd)

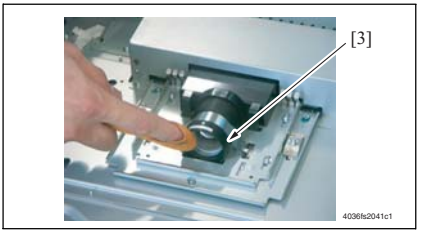


1. Remove the Original Glass.
☞ 2-43
2. Using a soft cloth dampened with alcohol, wipe the Mirror 1 [1] and Mirror 2/3 [2].

1.5.13 Cleaning of the Lens

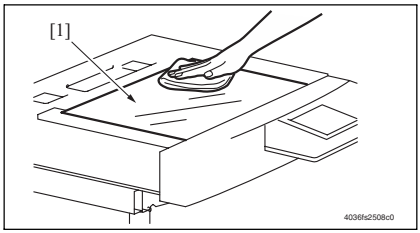


1. Remove the Original Glass.
☞ 2-43
2. Remove two Screws [1] and Lens cover [2].



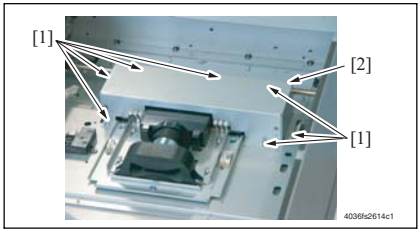
3. Using a soft cloth dampened with alcohol, wipe the Lens [3] clean of dirt.

1.5.14 Cleaning of the Original Glass



1. Using a soft cloth dampened with alcohol, wipe the Original Glass [1] clean of dirt.

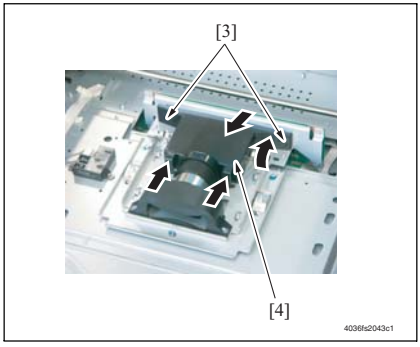
1.5.15 Cleaning of the CCD Sensor



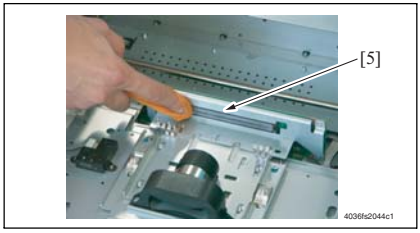
1. Remove the Original Glass.

☞ 2-43

2. Remove seven Screws [1] and CCD Unit protective cover [2].



3. Remove two hooks [3] and the lens cover [4].

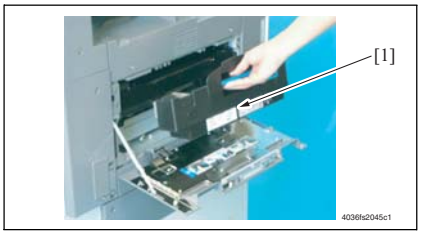


4. Using a soft lint free cloth dampened with alcohol, wipe the CCD Sensor [5] clean of dirt.

1.5.16 Replacing the Waste Toner Bottle

NOTES

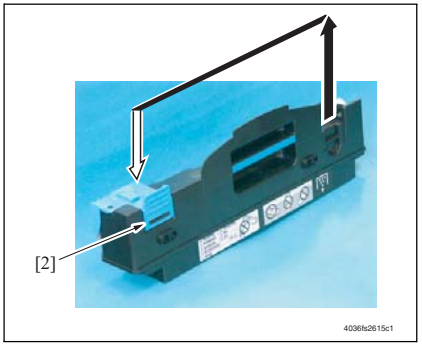
- **If a Finishing Option is installed, remove if from the Main Unit before trying to replace the Waste Toner Bottle.**
- **When removing the Finishing Option, support the Horizontal Transport Unit with your hand to prevent if from dropping.**



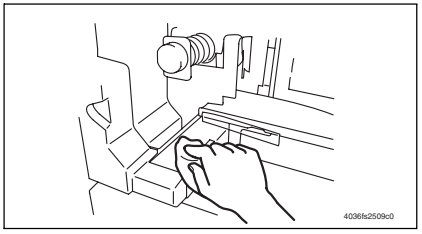
1. Turn OFF the main switch.
2. Open the Left Door.
3. Grasp the handle, and remove the waste toner bottle [1].

NOTES

- **Raise the waste toner bottle gently before removing it.**
- **If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner bottle when removing it.**
- **Do not leave the waste toner bottle in a tilted condition after removing it.**

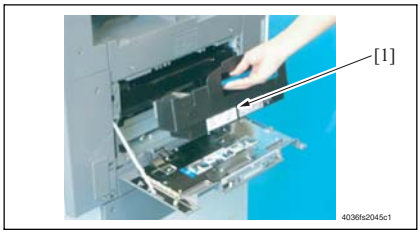


4. Remove the Cover [2] of Waste Toner Bottle, and set it on the Collecting port.

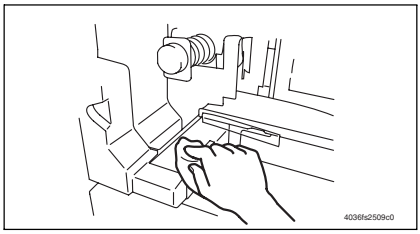


5. Clean the surface around the waste toner collecting port.
6. Remove the waste toner bottle from its box, and remove the packing material.
7. Grasp the handle, and set the waste toner bottle in place.
8. Close the Left Door.

1.5.17 Cleaning of the Area around the Waste Toner Collecting Port

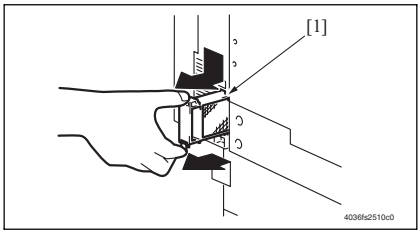


1. Open the Rear Left Cover.
2. Remove the Waste Toner Bottle [1].



3. Wipe the areas around the Waste Toner Collecting Port clean of spilled toner and dirt using a soft cloth dampened with water or alcohol.

1.5.18 Replacing Ozone Filter

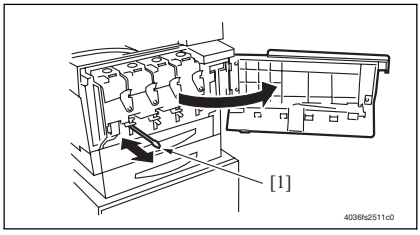


1. Holding onto the hook, remove the Ozone Filter [1].
2. Remove the Paper Dust Remover.

☞ 2-15

3. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “Paper Powder Filter/Ozone Filter.”

1.5.19 Cleaning of the Comb Electrode



1. Open the Front Door.
2. Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever [1] In and Out several times.

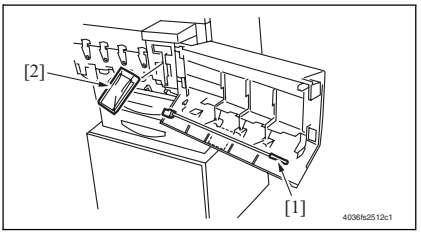
NOTE

- **Move the Comb Electrode Cleaning Lever slowly forward and backward until it stops.**

1.5.20 Cleaning LPH Assy

NOTE

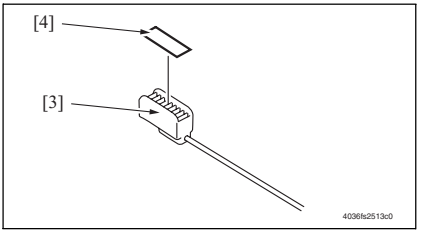
- **After the Imaging Unit has been removed from the main unit, be sure to place it in the plastic bag (black) or wrap it in a light shielding cloth, and store it in a dark place.**
  Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.



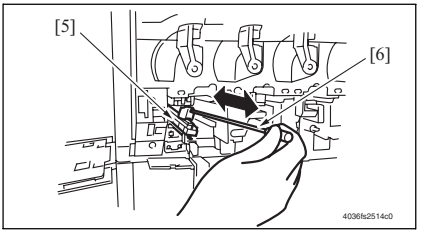
1. Open the Front Door.
2. Slide out the IU (C/M/Y/Bk).

☞ 2-25

3. Remove the LED Cleaning Jig [1] and LED Cleaning Jig Pad [2].



4. Affix a LED Cleaning Jig Pad [4] to the LED Cleaning Jig [3].

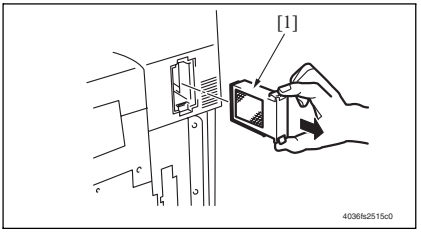


5. Clean the LED [5] of the LPH Assy by moving the LED Cleaning Jig [6] three reciprocating motions.

NOTE

- **Use only the specified jig (LED Cleaning Jig) for cleaning.**

1.5.21 Replacement of the Deodorant Filter

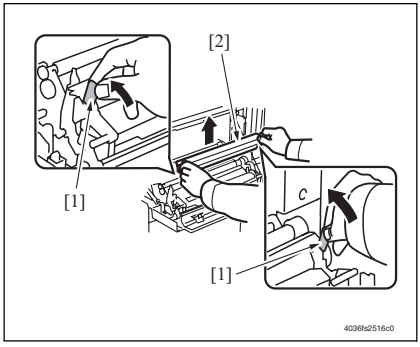


1. Holding onto the hook, take out the Deodorant Filter [1].

1.5.22 Replacing the 2nd Image Transfer Roller Unit

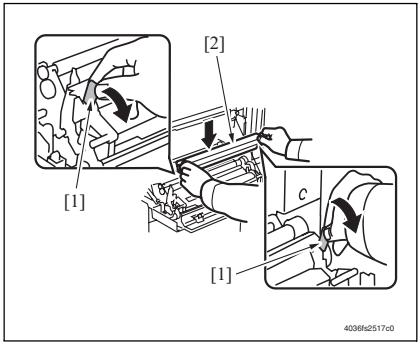
NOTES

- **If a Finishing Option is installed, remove if from the main unit before trying to replace the Waste Toner Bottle.**
- **When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.**



A. Removal Procedure

1. Turn OFF the main switch.
2. Open the Right Door.
3. Unlock the blue lock levers [1] (at two places).
4. Holding onto the blue lock levers [1] (at two places), remove the 2nd Image Transfer Roller Unit [2].



B. Reinstallation Procedure

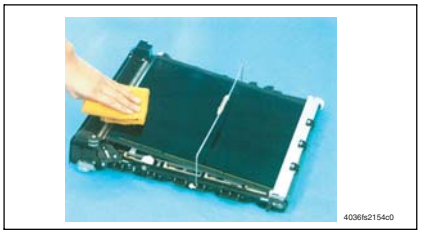
1. Holding onto the blue lock levers [1] (at two places), mount the 2nd Image Transfer Roller Unit [2].
2. Lock the blue lock levers [1](at two places).
3. Close the Right Door.

NOTE

- **Make sure that the door is locked in position both at front and rear.**

4. Turn ON the Power Switch.
5. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “Transfer Roller Unit.”

1.5.23 Image Transfer Belt Unit



A. Cleaning Procedure

1. Remove the Image Transfer Belt Unit.

☞ 2-23

2. Using a dried soft cloth, wipe the Transfer belt.

NOTES

- **If it is difficult to clean with dried soft cloth, dampen a soft cloth with a solvent.**
- **Do not wipe out with water.**
- **When solvent is used to dampen a cloth, do not use the ones other than shown below: isopropyl alcohol, ethyl alcohol, PPC Cleaner, Sol mix AP-7**
- **After cleaned with the solvent, make copies more than 28-piece of A3 white paper to eliminate the image noise.**

B. Replacing Procedure

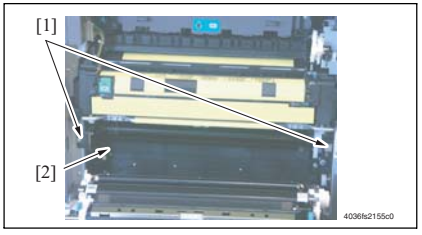
NOTES

- **If a Finishing Option is installed, remove if from the main unit before trying to replace the Transfer Belt Assembly.**
- **When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.**

1. Turn OFF the main switch.
2. Slide out the IU (C/M/Y/Bk).

NOTE

- **After the Imaging Unit has been removed from the main unit, be sure to place it in the plastic bag (black) or wrap it in a light shielding cloth, and store it in a dark place.**
  Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.

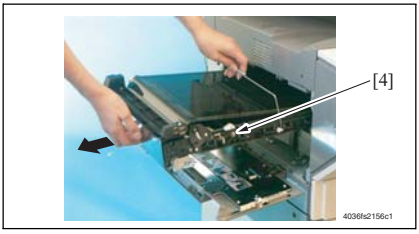


3. Open the Right Door.
4. Remove two Screws [1] and release the Lock of the Image Transfer Belt Unit [2].

5. Open the Left Door.
6. Grasp the handle, and remove the waste toner bottle [3].

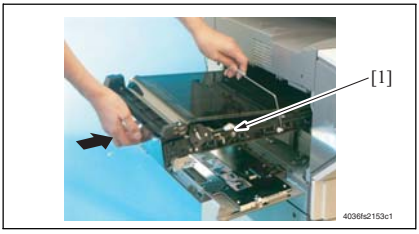
NOTES

- **Raise the waste toner bottle gently before removing it.**
- **If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner bottle when removing it.**
- **Do not leave the waste toner bottle in a tilted condition after removing it.**



7. Pull out the Image Transfer Belt Unit [4].

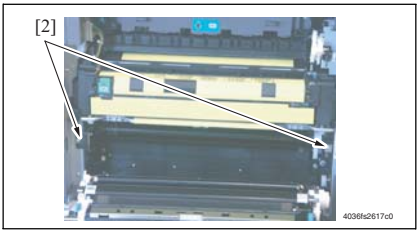
C. Reinstallation Procedure



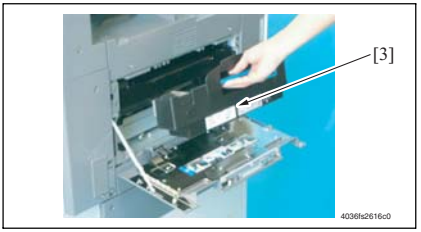
1. Insert the Transfer Belt Unit [1].

NOTE

- **Insert the Transfer Belt Unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**



2. Install the Image Transfer Belt Unit with two Screws [2].



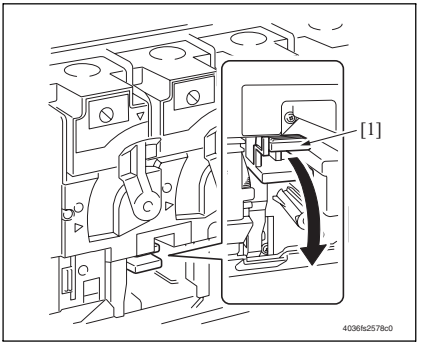
3. Hold the handle and install the Waste Toner Bottle [3] in position.
4. Close the Left Door.
5. Close the Right Door.

NOTE

- **Make sure that the door is locked in position both at front and rear.**

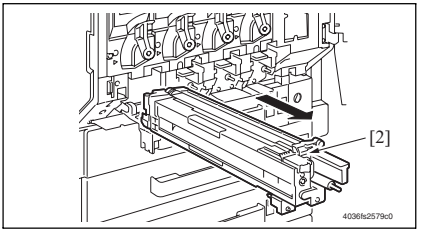
6. Turn ON the Power Switch.
7. Select “Tech. Rep. Mode” → “Gradation Adjust” and carry out Gradation Adjust.

1.5.24 Replacing the Imaging Unit (C, M, Y, Bk)



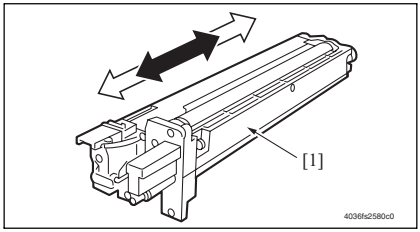
A. Removal Procedure

1. Turn OFF the Power Switch.
2. Unplug the power cord.
3. Open the Front Door.
4. Release the lock lever [1] of the Imaging Unit.



5. Pull out the IU [2], and remove it from main body.
6. Clean the LPH Assy.

☞ 2-21



B. Reinstallation Procedure

1. Remove the Imaging Unit from its plastic bag.

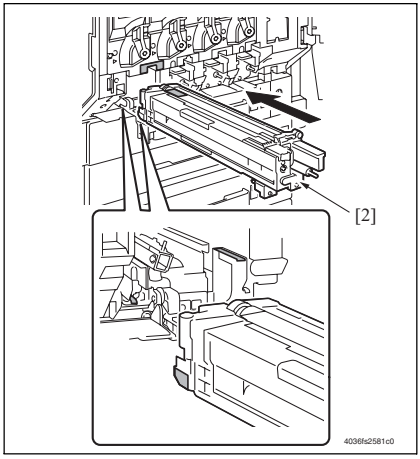
2. Tilt the Imaging Unit [1] to the left and shake it a small stroke in the tilt direction twice. Then, tilt it to the right and shake it a small stroke in the tilt direction twice.

NOTES

- **Since the Imaging Unit is highly susceptible to light, keep it shielded from light up to the time it is installed.**
- **Carefully unseal the plastic bag (black).**
- **If the Imaging Unit is packed in the plastic bag (black) again, seal the package using tape or another means.**

NOTE

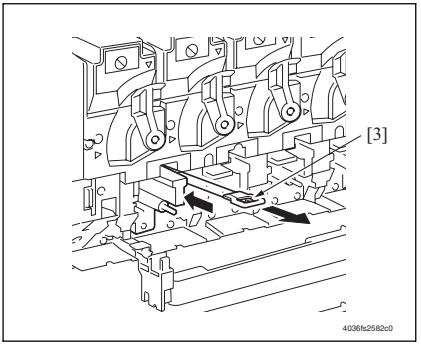
- **When installing the Imaging Unit, ensure that the color of the mounting guide of the Imaging Unit is the same as the color of the label at the mounting position on the main unit.**



3. Keeping the Imaging Unit [2] in a level position, insert the Imaging Unit [2] into the mounting position all the way until it is stopped.

NOTES

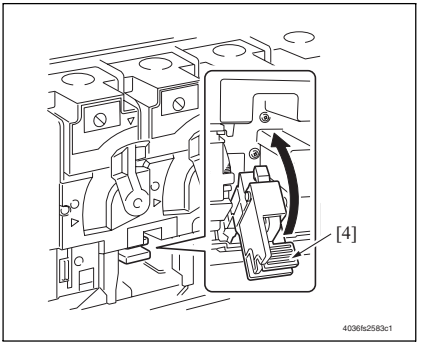
- **Do not allow the Imaging Unit to become tilted while installing them into the Main Unit, as damage to the PC Drum or the LED assembly can result.**
- **Insert the Imaging Unit until a click is heard.**



4. Pull out the PC Drum protective sheet [3] while pressing the IU.

NOTE

- **Pull out the PC Drum protective sheet half way, and pull it down slantwise.**



5. Close the Imaging Unit Locking Lever [4] while pressing the IU.

NOTE

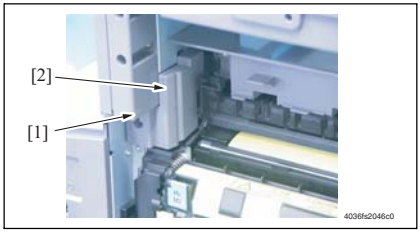
- **Place the IU Lock Lever into the locked position until a click is heard.**

6. Close the Front Door.
7. Plug in the power cord.
8. Turn ON the Power Switch.
9. Select “Tech. Rep. Mode” → “Gradation Adjust” and carry out Gradation Adjust.

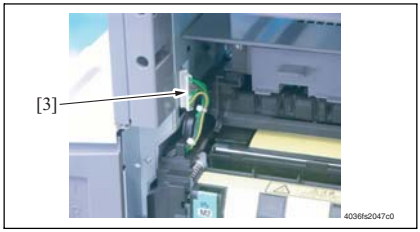
1.5.25 Replacing the Fusing Unit

NOTE

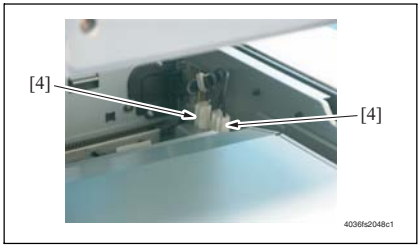
- **Before replacing the Fusing Unit, ensure that it has had time to cool down.**



1. Turn OFF the main switch and unplug the power cord from the power outlet, then wait for about 20 minutes.
2. Open the Right Door.
3. Remove the Screw [1], and remove the Connector protective cover [2].



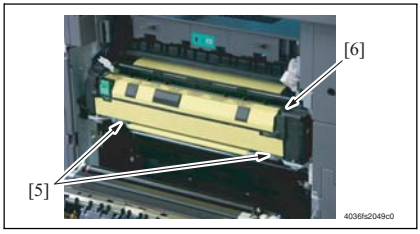
4. Remove the Connector [3].



5. Remove the Exit Tray.

☞ 2-40

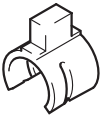
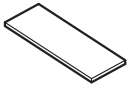
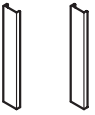
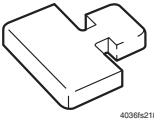
6. Remove wire saddle and remove two Connectors [4] of Fusing unit.



7. Remove two Screws [5], and remove the Fusing unit [6].

2. Service tool

2.1 CE Tool list

Tool name	Shape	Personnel	Remarks
Scanner Drive Cable Holding Jig	 4036fs2001c0	2	
LED Cleaning Jig	4036fs2002c0	1	
LED Cleaning Jig Pad	 4036fs2003c0	1	
LPH Assy Mounting Jigs	 4036fs2004c0	2	
Color chart	4036fs2577c0	1	
△1 Safety Switch Holding Jig	 4036fs2184c0	1	

2.2 Copy materials

2.2.1 Imaging Unit Single Parts (IU)

Parts name	Replacing period
IU Black	80,000 copies
IU Yellow	50,000 copies
IU Magenta	50,000 copies
IU Cyan	50,000 copies

☞ For the predetermined conditions, see 2-6.

2.2.2 Toner Cartridge Single Parts (T/C)

Also replace the Deodorant filter packed in the T/C Black at the same time.

Parts name	Replacing period *1
T/C Black	11,500 copies
T/C Yellow	11,500 copies
T/C Magenta	11,500 copies
T/C Cyan	11,500 copies

*1: Life value that can be achieved with a probability of 90% even with product-to-product variations and fluctuating operating environmental conditions taken into consideration, when the T/C is used under the conditions of B/W ratio 5% for each color

2.2.3 Waste Toner Bottle

Parts name	Replacing period
Waste Toner Bottle	30,000 copies

☞ For the predetermined conditions, see 2-6.

2.2.4 Maintenance Kit

There is no setting for the Maintenance Kit.

3. Firmware upgrade

3.1 Preparations for Firmware rewriting

3.1.1 Service environment

- OS: Windows2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 64MB or more)

3.1.2 Application to be used

- Cygwin (Free software)

3.1.3 Installing the Cygwin

- The software for writing the Firmware into Compact flash is installed into the PC.

⚠1 *1.* Execute the “setup.exe” of the CD-ROM in which Cygwin has been stored to start the installation sequence.

NOTES

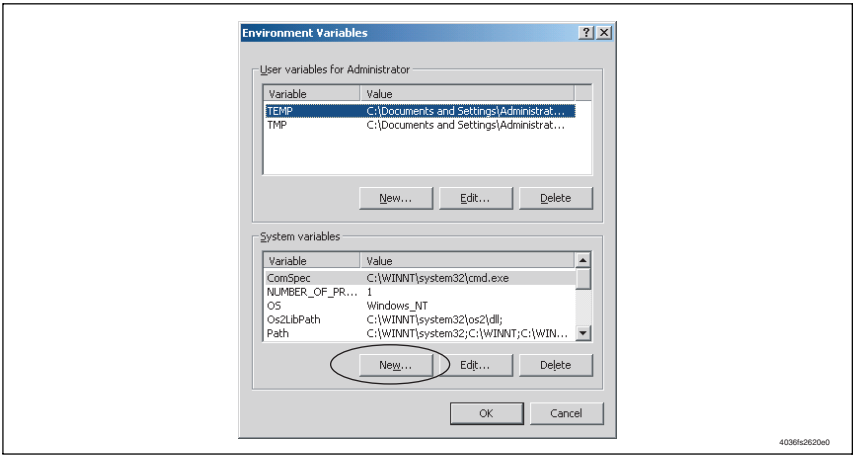
- **Except for the selection of “Install from Local Directory”, carry out installing according to the instruction from Installer during installing.**

⚠1 • **Check that the destination for Cygwin installation is “c:\cygwin.”**

- **Check that the source data for installation is the “cygwin” folder in CD drive.**

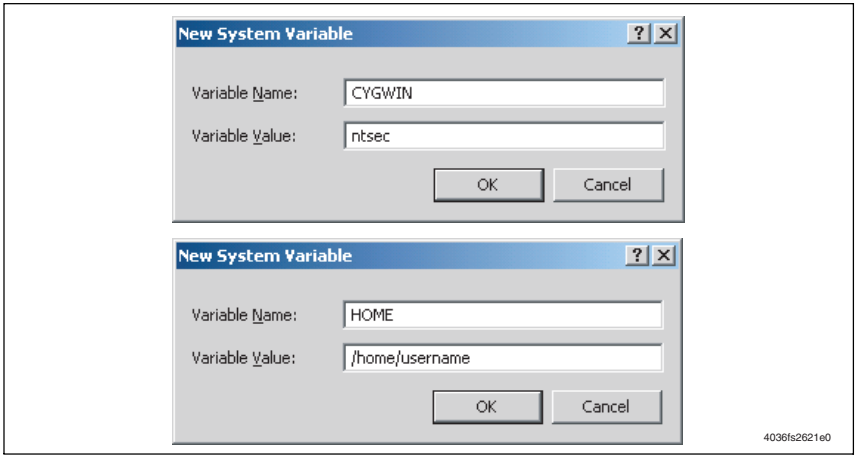
2. After installing, open the Property of “My Computer”, and click the “Environmental Variable” of “Advanced” tab.

3. Click the “New” in System Variable Setting.



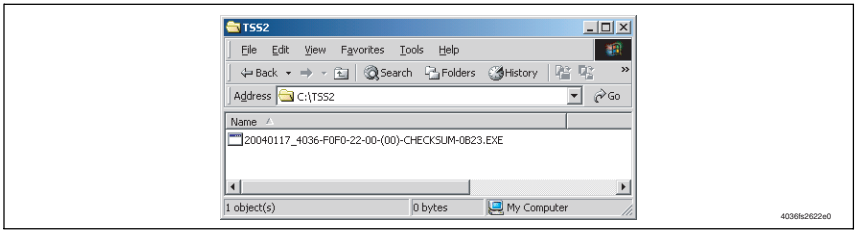
4. Set the following two values as the Windows Environmental Variable.

Variable name	Variable value
CYGWIN	ntsec
HOME	/home/username



3.1.4 Writing into the Compact flash

1. Put the data of Firmware in the optional directory. (C:\TSS2 in the below figure)



NOTE

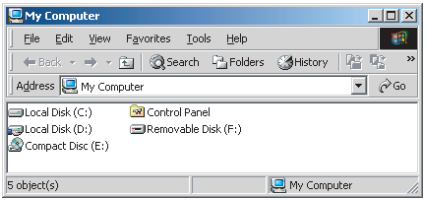
- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe".**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

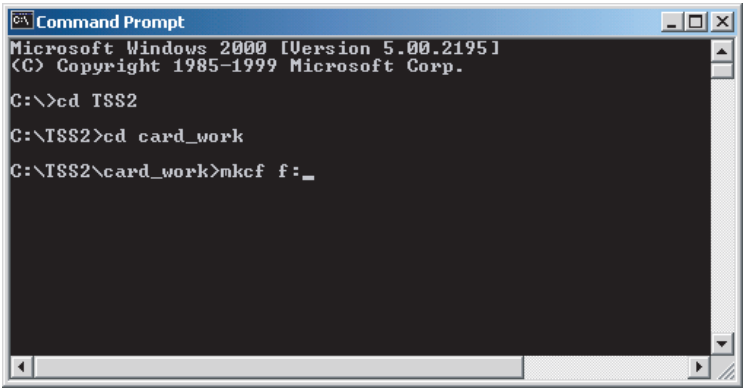
NOTE

- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows. (F-Drive in the following figure)



4. Click “Start” → “Program” → “Accessories” → “Command prompt” to open the Command prompt.
5. Use the Command prompt to move into the uncompressed directory.
6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mkcf.bat”. (Input the C: \TSS2\card_work>mkcf F (Drive number) in the below figure, and push the “Enter”.)



7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERIFY OK” appears.

9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

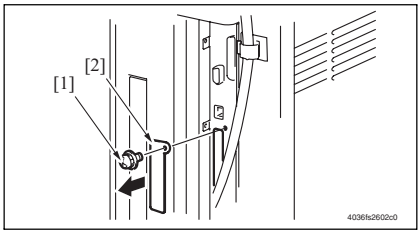
3.2 Firmware rewriting

- The F/W is updated using the Compact flash.

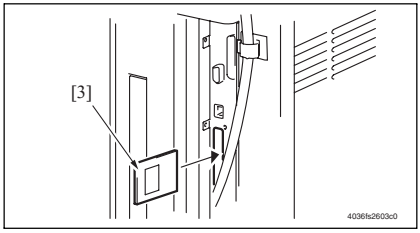
3.2.1 Updating method

NOTE

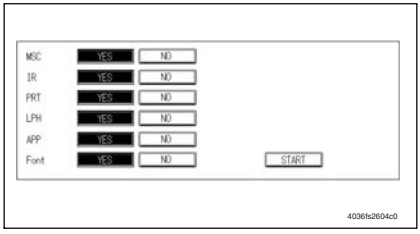
- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**



1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.
2. Remove one screw [1] and the metal Blanking Plate [2].



3. Insert the Compact Flash card into the slot.



4. Plug the power cord into the power outlet and turn ON the Power Switch.
5. Six different types of F/W appear on the Touch Panel.
6. Select the particular type of F/W to be updated.
7. Press the Start key. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly (“Downloading Completed”). Check also the Check Sum value (“Check Sum XXXX”) shown on the Touch Panel. (The Start key blinks green.)
9. Unplug the power cord from the power outlet.

NOTE

- **Do not turn OFF the Power Switch.**

10. Remove the Compact Flash card from the slot.
11. Turn OFF the Power Switch.
12. Plug the power cord and turn ON the Power Switch.
13. Call the Tech. Rep. mode to the screen.
14. Select ROM Version.
15. Make sure if the version of Firmware is updated.

3.2.2 Action When Data Transfer Fails

- If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the memory card for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

MSC	MFP Control Board (PWB-MFP)
IR	Image Processing Board (PWB-C)
PRT	Control Board (PWB-MC)
LPH	LED Drive Board (PWB-LED)
APP	MFP Control Board (PWB-MFP)
Font	MFP Control Board (PWB-MFP)

4. Other

4.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

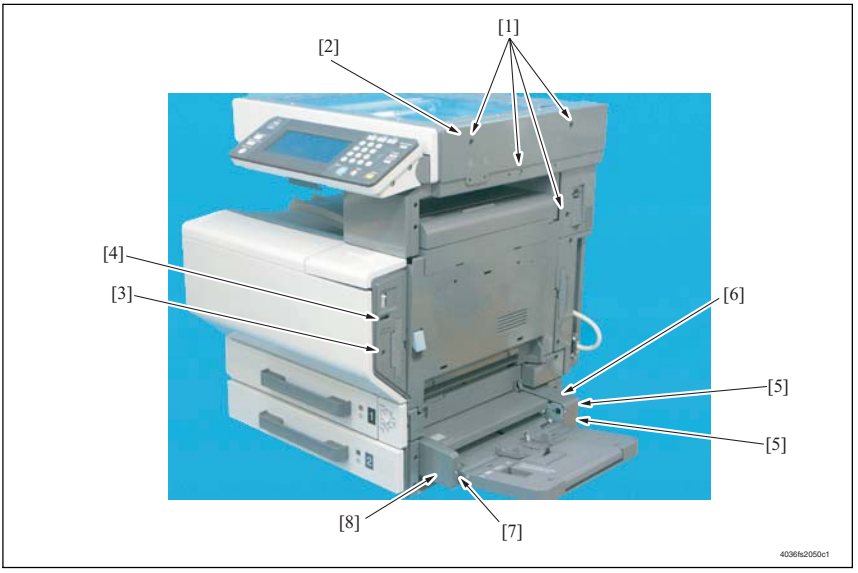
4.2 Disassembly/Assembly list (Other parts)

No.	Section	Part name	Ref.Page
1	Exterior parts	Original Glass	☞ 2-43
2		IR Upper Right Cover	☞ 2-42
3		Control Panel	☞ 2-43
4		IR Front Cover	☞ 2-43
5		IR Upper Front Cover	☞ 2-42
6		IR Left Cover	☞ 2-40
7		IR Upper Left Cover	☞ 2-42
8		IR Upper Rear Cover	☞ 2-42
9		IR Right Cover	☞ 2-39
10		Rear Left Cover	☞ 2-40
11		Panel Cover	☞ 2-41
12		Front Door	☞ 2-41
13		Front Left Cover	☞ 2-40
14		Front Right Cover	☞ 2-39
15		Rear Cover	☞ 2-41
16		Rear Right Cover	☞ 2-41
17		Exit Tray	☞ 2-40
18		Tray 1	☞ 2-44
19		Tray 2	☞ 2-45
20		Paper Setting Dial cover	☞ 2-41
21		Lower Rear Cover	☞ 2-41
22		Tray 2 Rear Cover	☞ 2-41
23		Tray 2 Rear Right Cover	☞ 2-40
24		Multi Bypass Right Cover	☞ 2-39
25		Multi Bypass Left Cover	☞ 2-39
26	Board and etc	Scanner Motor Drive Board	☞ 2-45
27		CCD Unit	☞ 2-46
28		Image Processing Board	☞ 2-47
29		Control Board	☞ 2-48
30		MFP Control Board	☞ 2-49
31		High Voltage Unit/1	☞ 2-51
32		High Voltage Unit/2	☞ 2-52
33		Tray1 Paper Size Board	☞ 2-53
34		DC Power Supply	☞ 2-53
35		LED Drive Board	☞ 2-55
36		Paper Type Board	☞ 2-56
37		Tech. Rep. Setting Switches Board	☞ 2-56
38		Tray2 Board	☞ 2-57
39		Tray2 Paper Size Board	☞ 2-57
40		Inverter Board	☞ 2-58

No.	Section	Part name	Ref.Page
41	Unit	Multi Bypass Unit	☞ 2-58
42		Hopper Unit	☞ 2-59
43		LPH Unit	☞ 2-61
44	IR	Scanner Motor	☞ 2-63
45		Scanner Assy	☞ 2-65
46		Scanner Wire	☞ 2-66
47	Others	PWB Box	☞ 2-73
48		Main Motor	☞ 2-74
49		Fusing Drive Motor	☞ 2-74
50		Toner Supply Motor C/Bk	☞ 2-75
51		Toner Supply Motor Y/M	☞ 2-75
52		Color PC Drum Motor	☞ 2-76
53		Color Developing Motor	☞ 2-78
54		Bk PC Motor	☞ 2-79
55		1st Image Transfer Pressure/Retraction Motor	☞ 2-80
56		2nd Image Transfer Pressure/Retraction Motor	☞ 2-80
57		Intermediate Transport Motor	☞ 2-81
58		Fusing Pressure Roller Pressure/Retraction Motor	☞ 2-83
59		Cleaning Brush Motor	☞ 2-86
60		AIDC/Registration Sensor/1,2	☞ 2-87
61		LPH Assy	☞ 2-88
62		ATDC Sensor Y/M/C	☞ 2-92

4.3 Disassembly/Assembly procedure

4.3.1 IR Right Cover/Front Right Cover/Bypass Right & Left Cover

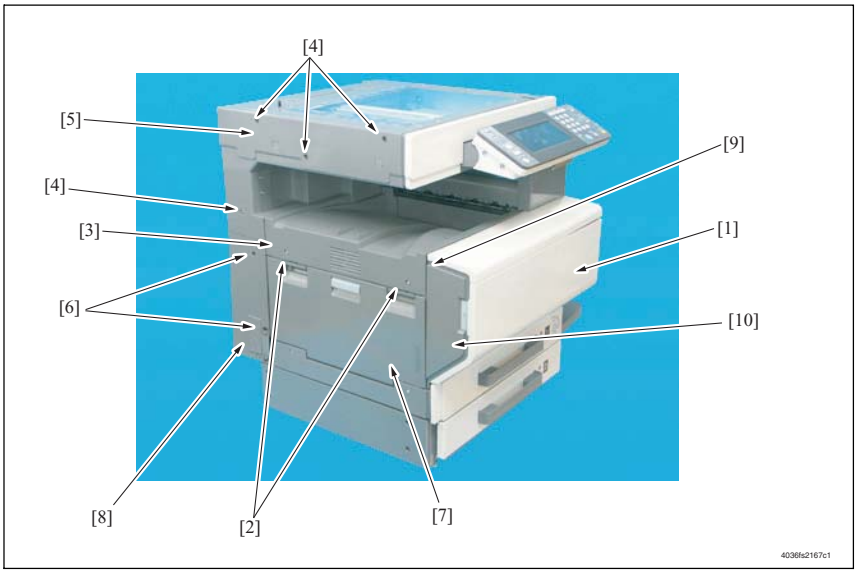


1. Remove four Screws [1], and remove the IR Right Cover [2].
2. Remove the Panel Cover.

☞ 2-41

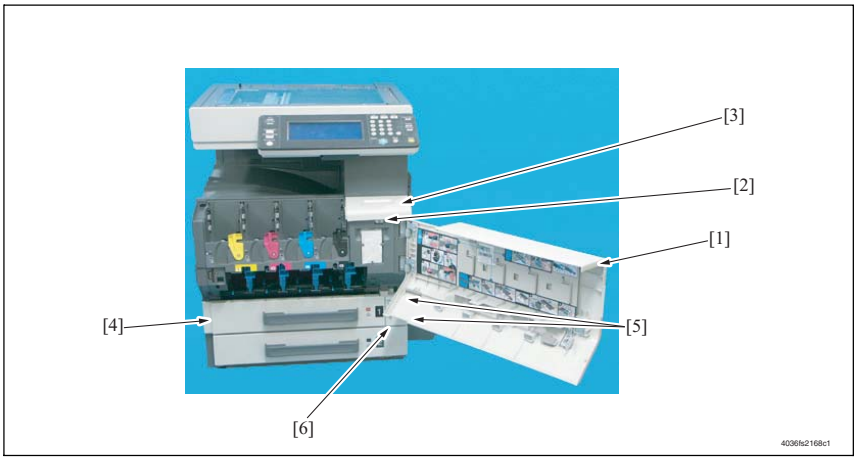
3. Remove the Screw [3], and remove the Front Right Cover [4].
4. Remove two Screws [5], and remove the Bypass Right Cover [6].
5. Remove the Screw [7], and remove the Bypass Left Cover [8].

4.3.2 Exit Tray/IR Left Cover/Rear Left Cover/Left Front Cover



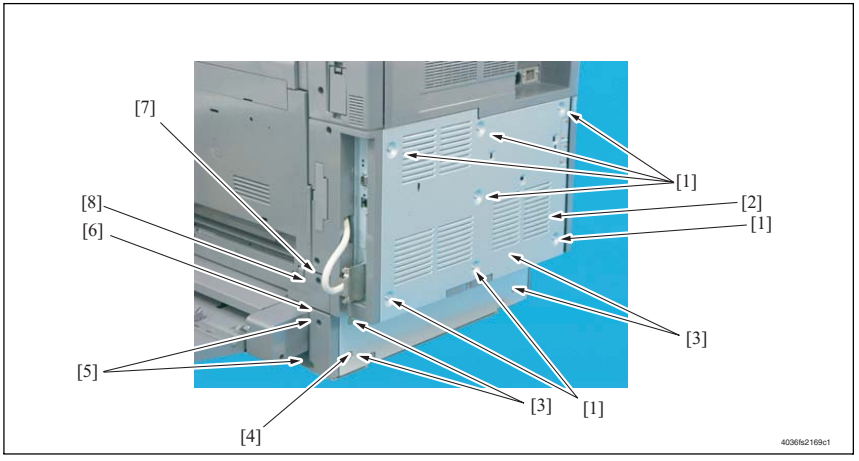
1. Open the Front Door [1].
2. Remove two Screws [2], and remove the Exit Tray [3].
3. Remove four Screws [4], and remove the IR Left Cover [5].
4. Remove two Screws [6].
5. Open the Left Door [7], and remove the Rear Left Cover [8].
6. Remove the Screw [9], and remove the Left Front Cover [10].

4.3.3 Front Door/Panel Cover/Paper Setting Dial Cover

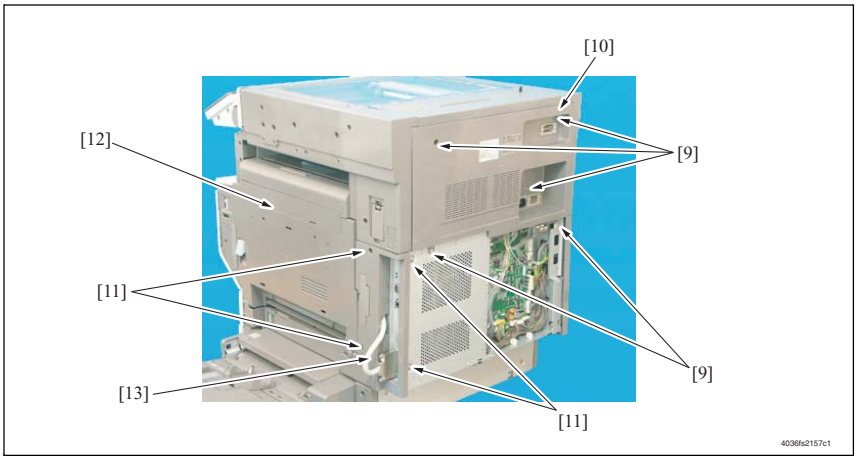


1. Open the Front Door [1].
2. Remove the Screw [2], and remove the Panel Cover [3].
3. Pick up the Front Door [1] and remove it.
4. Pull out the 1st Paper take-up Tray [4].
5. Remove two Screws [5], and remove the Paper Setting Dial Cover [6].

4.3.4 Lower Rear Cover/Tray 2 Rear Cover/Rear Cover/Rear Right Cover/Tray 2 Rear Right Cover/Wiring Cover

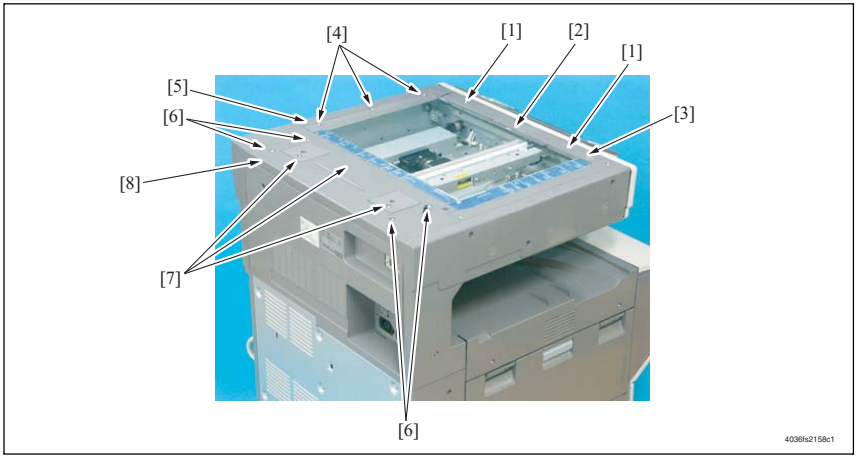


1. Remove seven Screws [1], and remove the Lower Rear Cover [2].
2. Remove four Screws [3], and remove the Tray 2 Rear Cover [4].
3. Remove two Screws [5], and remove the Tray 2 Rear Right Cover [6].
4. Remove the Screw [7], and remove the Wiring Cover [8].



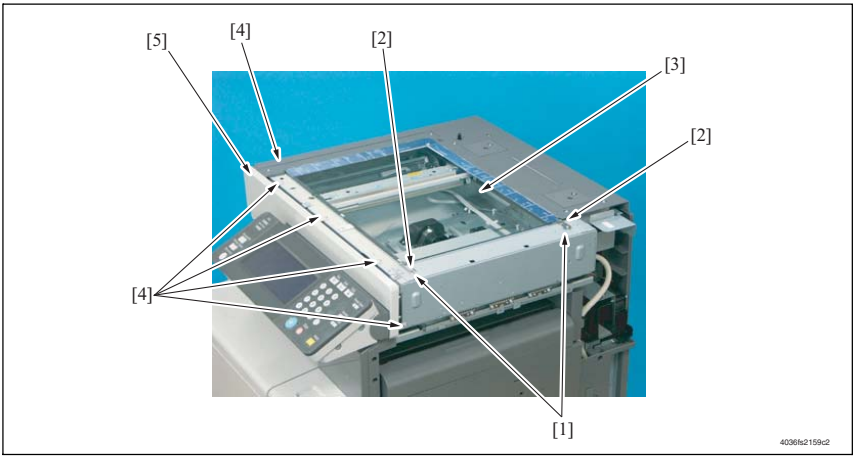
5. Remove five Screws [9], and remove the Rear Cover [10].
6. Remove four Screws [11].
7. Open the Right Door [12], and remove the Rear Right Cover [13].

4.3.5 IR Upper Front Cover/IR Upper Right Cover/IR Upper Rear Cover



1. Remove two Shoulder Screws [1] and a Screw [2], and remove the IR Upper Front Cover [3].
2. Remove three Screws [4], and remove the IR Upper Right Cover [5].
3. Remove four Shoulder Screws [6] and three Screws [7], and remove the IR Upper Rear Cover [8].

4.3.6 Original Glass/IR Front Cover



1. Remove the IR Upper Right Cover.

☞ 2-42

2. Remove each Screw [1], and remove the Original Glass fixing bracket (near side/inmost side) [2].
3. Remove the Original Glass [3].
4. Remove the IR Right Cover and IR Upper Front Cover.

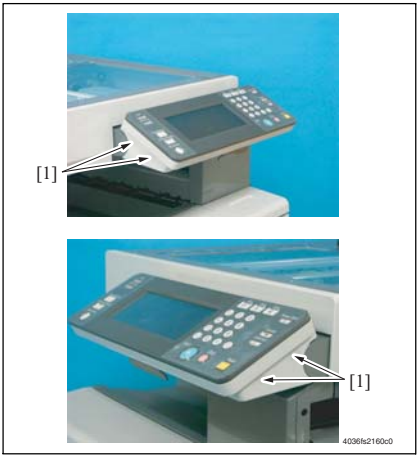
☞ 2-39, 2-42

5. Remove the IR Left Cover.

☞ 2-40

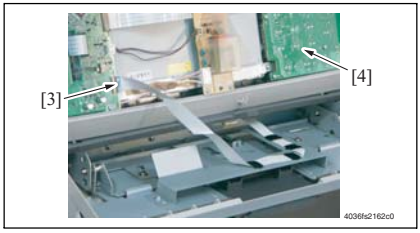
6. Remove five Screws [4], and remove the IR Front Cover [5].

4.3.7 Control Panel



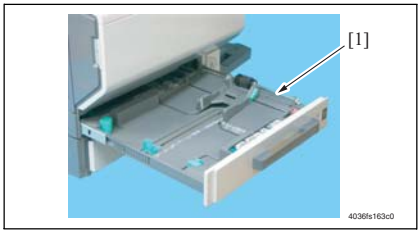
1. Remove four caps [1] at both ends of Control Panel.

2. Remove four Screws [2].

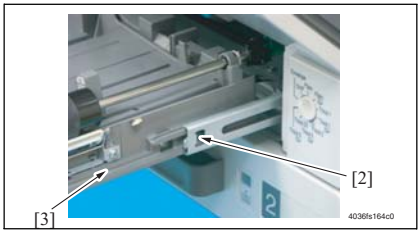


3. Remove the Flat Cable [3].
4. Remove the Control Panel [4].

4.3.8 Tray 1

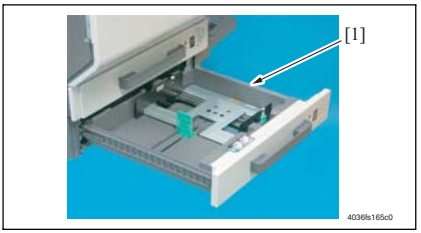


1. Slide out the Tray 1 [1].

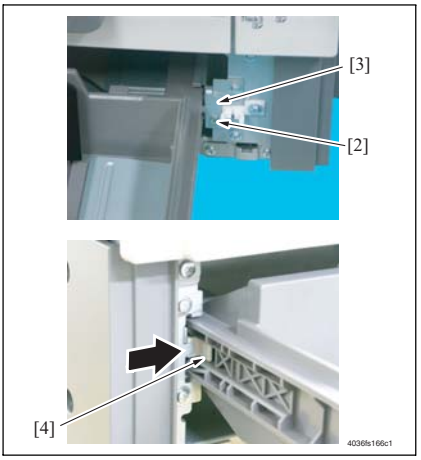


2. Slide out the Tray 1 [3] while pressing the Slide Locks [2] at both ends.

4.3.9 Tray 2

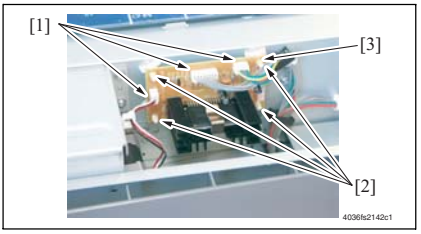


1. Slide out the Tray 2 [1].



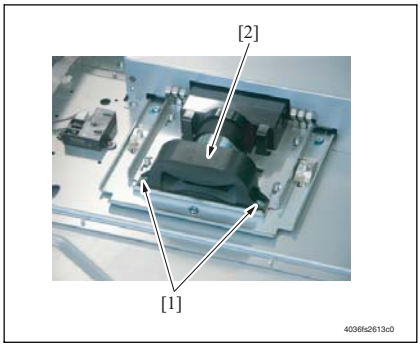
2. Remove one Screw [2], and remove the Stopper [3].
3. Slide out the Tray 2 while pressing the Slide Locks [4].

4.3.10 Scanner Motor Drive Board



1. Remove the IR Upper Rear Cover.
☞ 2-42
2. Remove three Connectors [1] and four Board Supports [2].
3. Remove the Scanner Motor Drive Board [3].

4.3.11 CCD Unit

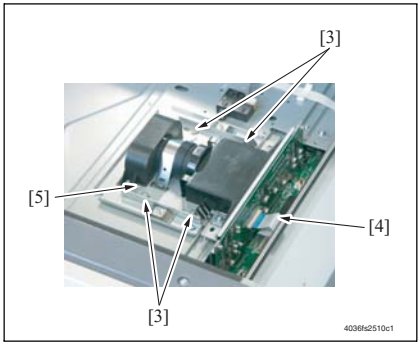


A. Removal Procedure

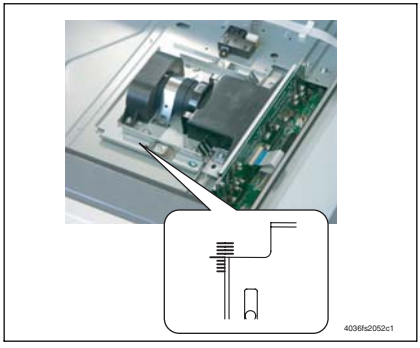
1. Remove the Original Glass.

☞ 2-43

2. Remove seven Screws [1], and remove the CCD Unit Cover [2].



3. Remove four Screws [3] and Flat Cable [4], and remove the CCD Unit [5].



B. Reinstallation Procedure

1. Align the CCD Unit with the center of the graduations as illustrated on the left and then tighten the four screws.

2. Reinstall the Original Glass.

3. Turn ON the Power Switch.

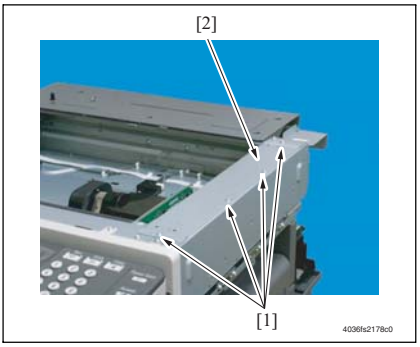
4. Carry out the adjustment procedure for CD-Mag. If the specifications are not met, loosen the CCD Unit mounting screws and move the CCD Unit in the FD direction as necessary.

☞ 3-46

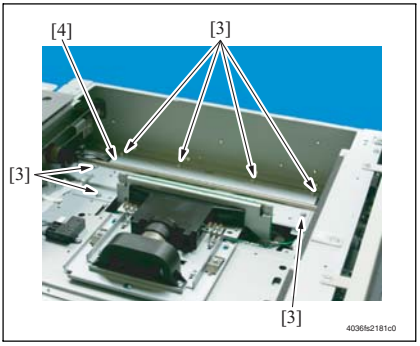
NOTE

- **Hold the CCD Unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it, as a varied distance between the CCD sensor and lens results.**

4.3.12 Image Processing Board

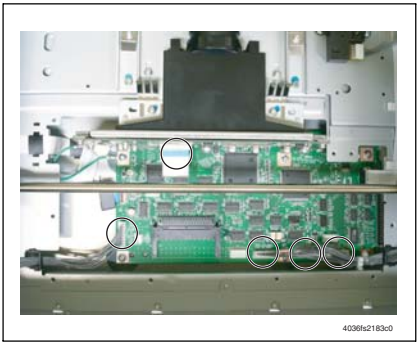


1. Remove the Rear Cover and IR Right Cover.
☞ 2-41
2. Remove four Screws [1], and remove the IR Frame Protective Cover [2].

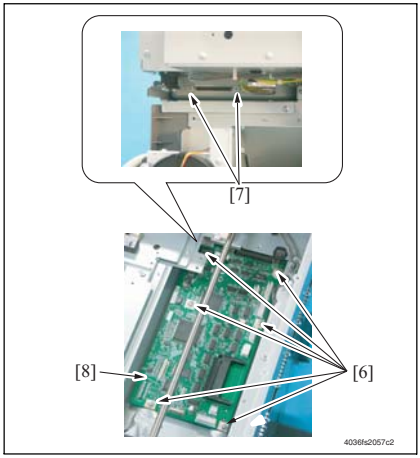


3. Remove seven Screws [3], and remove the Board Cover [4].

4. Remove the Connector [5].



5. Remove all the Connectors and Flat Cables on the Image Processing Board.



6. Remove six Screws [6] and two Bolts [7], and remove the Image Processing Board [8].

NOTE

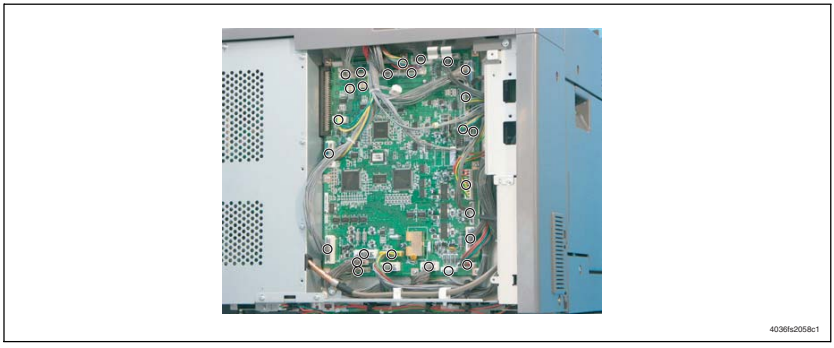
- **When the Image Processing Board is to be replaced, rewriting the Firmware to the latest one.**

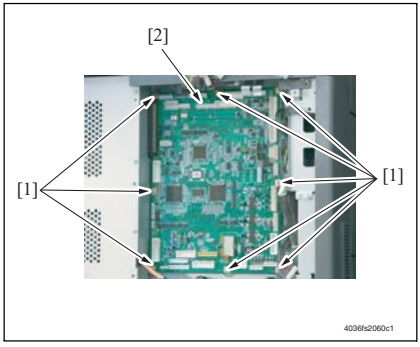
4.3.13 Control Board

1. Remove the Lower Rear Cover.

☞ 2-41

2. Remove all the Connectors on the Control Board.





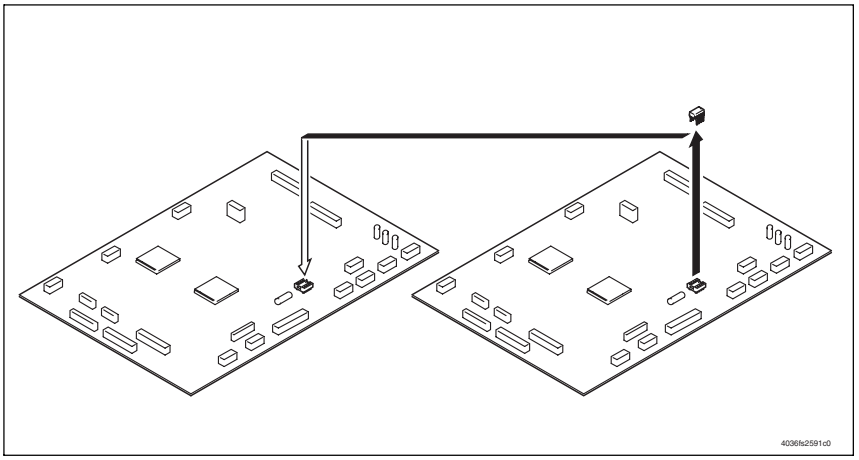
3. Remove eight Screws [1], and remove the Control Board [2].

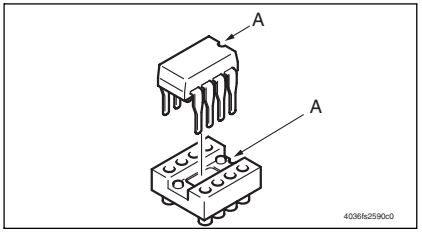
NOTE

- **When the Control Board is to be replaced, rewriting the Firmware to the latest one.**

Cautions in replacing the Control Board:

- **When Control Board (PWB-MC) is replaced, relocate the EEPROM (IC45). Mount the EEPROM (IC45) of old Control Board onto the new Control Board.**

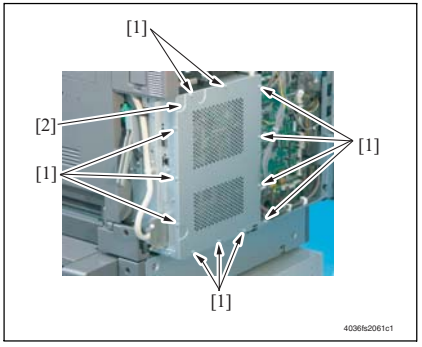




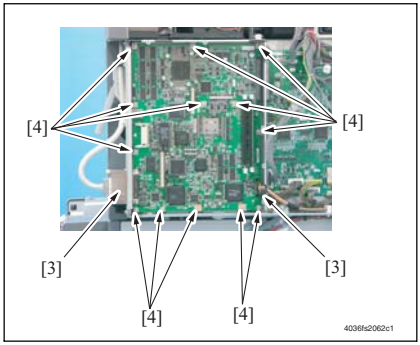
NOTE

- **When the EEPROM (IC45) is mounted, precisely fit the directions of each "A".**

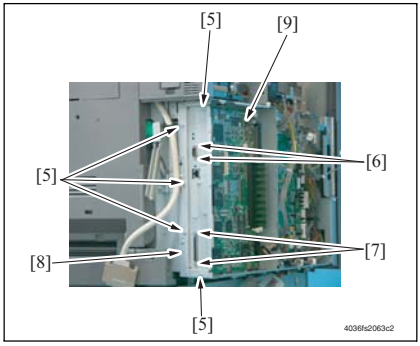
4.3.14 MFP Control Board



1. Remove the Rear Right Cover, Rear Cover and Upper Rear Cover.
☞ 2-41
2. Remove 12 Screws [1], and remove the Protective Shield [2].



3. Remove two Connectors [3] and 13 Screws [4].



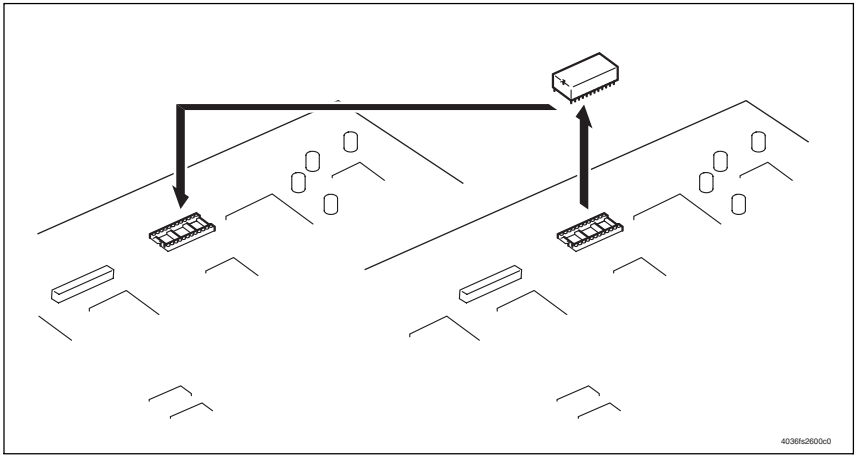
4. Remove five Screws [5].
5. Remove two Screws [6] and two Bolts [7], and remove the Interface Cover [8].
6. Remove the MFP Control Board Assy [9].

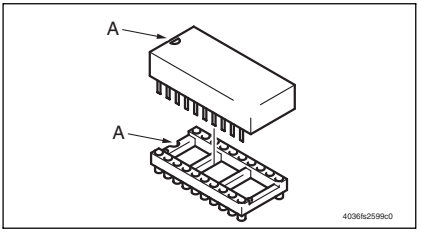
NOTE

- **When the MFP Control Board is to be replaced, rewriting the Firmware to the latest one.**

Cautions in replacing the MFP Control Board:

- **When MFP Control Board (PWB-MFP) is replaced, relocate the RAM IC (IC418). Mount the RAM IC (IC418) of old Control Board onto the new Control Board.**

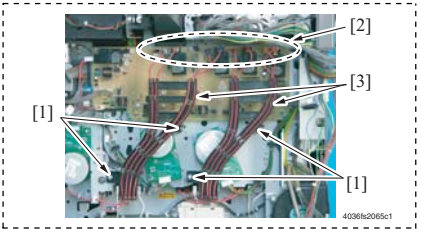




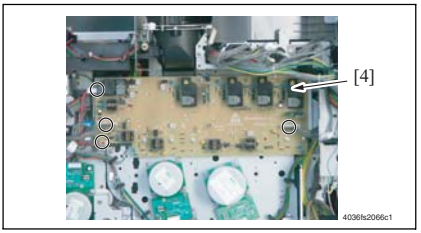
NOTE

- **When RAM IC (IC418) is mounted, precisely fit the directions of each "A".**

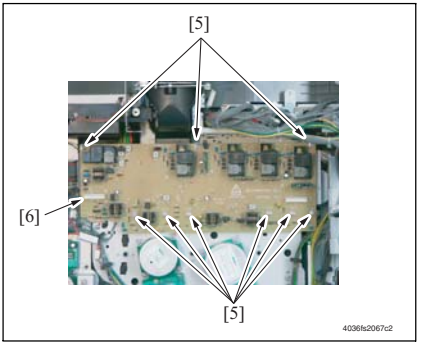
4.3.15 High Voltage Unit/1



1. Remove the PWB Box.
☞ 2-73
2. Remove four Screws [1] and eight Connectors [2], and remove two Harness Holder [3].

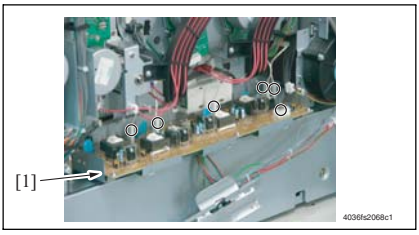


3. Remove all the Connectors on the High Voltage Unit/1 [4].

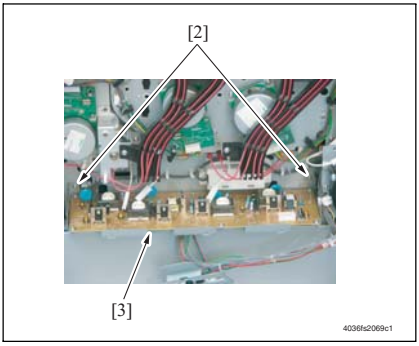


4. Remove 9 Screws [5], and remove the High Voltage Unit/1 [6].

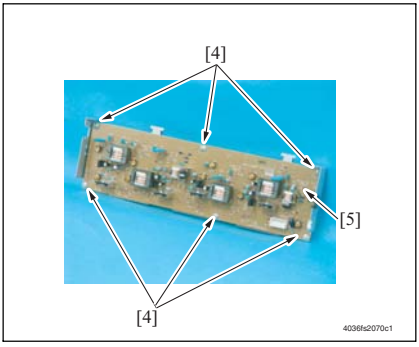
4.3.16 High Voltage Unit/2



1. Remove the PWB Box.
☞ 2-73
2. Remove all the Connectors on the High Voltage Unit/2 [1].

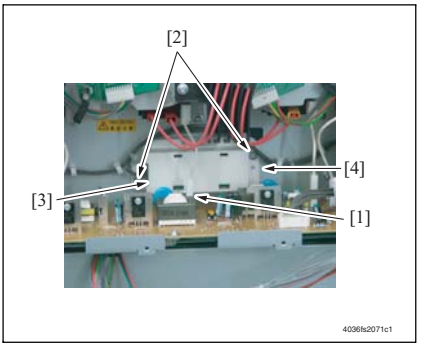


3. Remove two Screws [2], and remove the High Voltage Unit/2 Assy [3].



4. Remove six Screws [4], and remove the High Voltage Unit/2 [5].

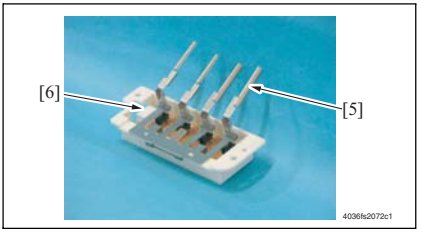
4.3.17 Tray 1 Paper Size Board



1. Slide out the Tray 1.
2. Remove the PWB Box.

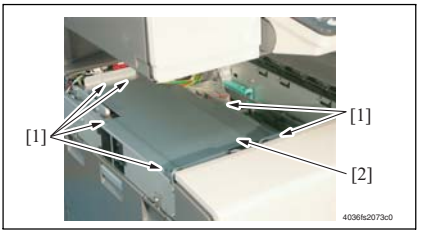
☞ 2-73

3. Remove the Connector [1] on the High Voltage Unit/2.
4. Remove two Screws [2] and Connector [3], and remove the Tray1 Paper Size Board Assy [4].



5. Remove the Lever [5].
6. Remove the Tray 1 Paper Size Board [6].

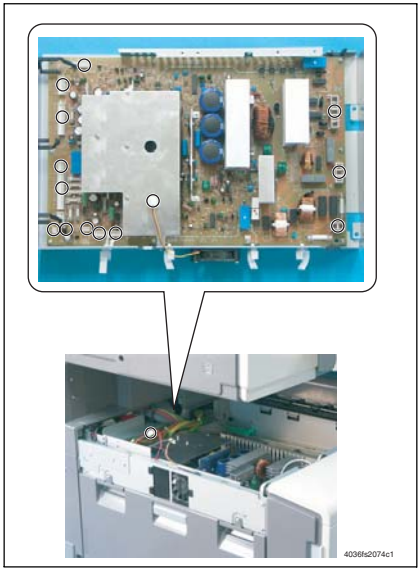
4.3.18 DC Power Supply



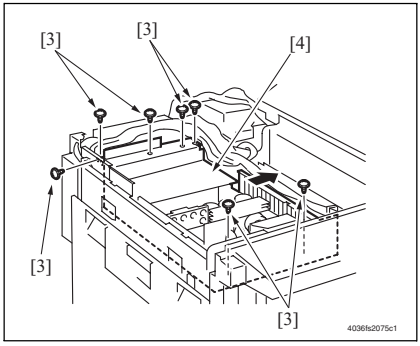
1. Remove the Exit Tray.

☞ 2-40

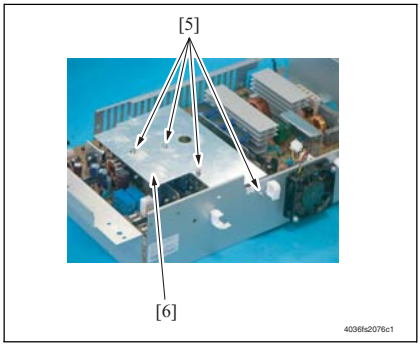
2. Remove six Screws [1], and remove the Board Cover [2].



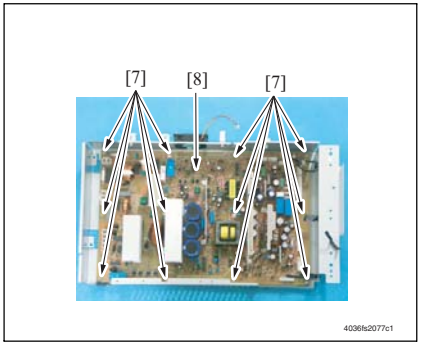
3. Unplug all connectors from the DC Power Supply.



4. Remove seven Screws [3], and remove the DC Power Supply Assy [4].

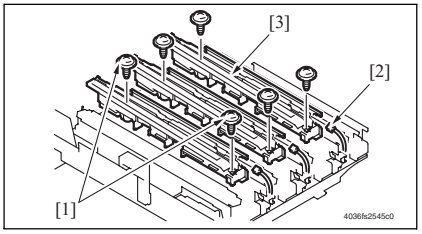


5. Remove four Screws [5], and remove the Protective Cover [6].

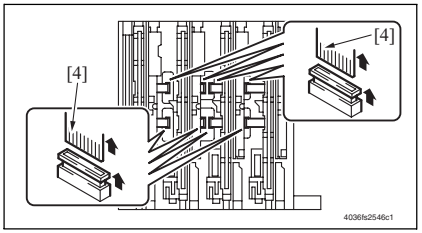


6. Remove 12 Screws [7], and remove the DC power Supply [8].

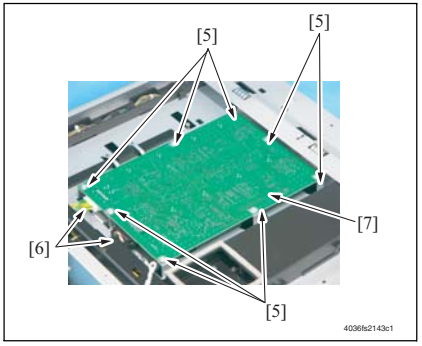
4.3.19 LED Drive Board



1. Remove the LPH Unit.
☞ 2-61
2. Remove two screws [1], unplug the connector [2] each, and remove each guide Assy.

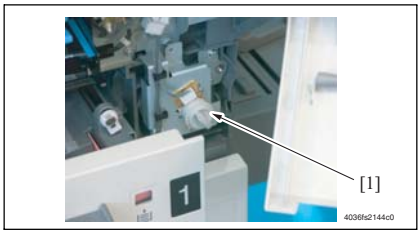


3. Remove the flat cables [4] (eight).

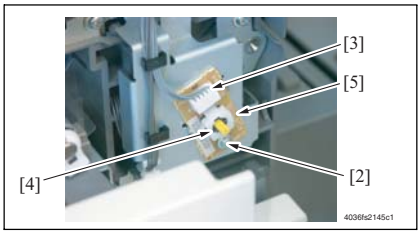


4. Remove eight screws [5], unplug two connectors [6], and remove the LED Drive Board [7].

4.3.20 Paper Type Board

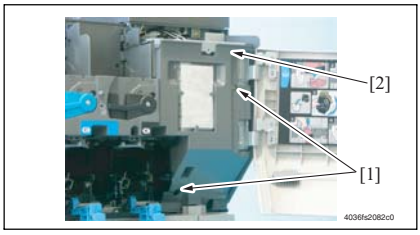


1. Remove the Paper Setting Dial Cover.
☞ 2-41
2. Remove the Dial [1].

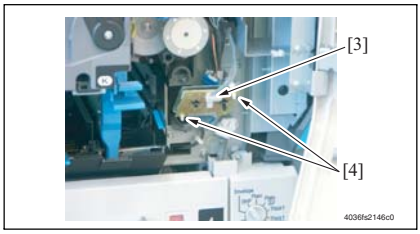


3. Remove the Screw [2], Connector [3], and Holder [4], and remove the Paper Type Board [5].

4.3.21 Tech. Rep. Setting Switches Board

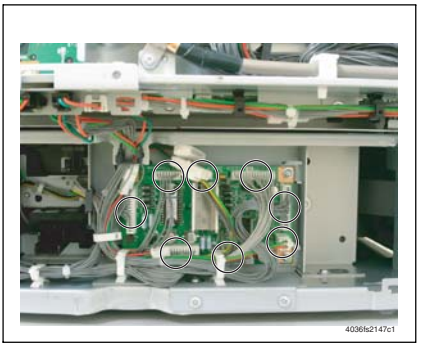


1. Remove the Panel Cover.
☞ 2-41
2. Remove two Screws [1], and remove the Front Right Cover [2].

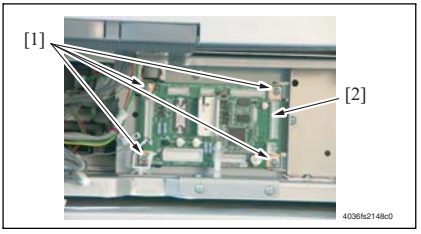


3. Remove the Connector [3], two Board Supports [4], and remove the Tech. Rep. Setting Switches Board.

4.3.22 Tray 2 Board

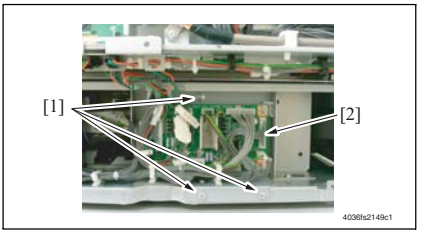


1. Remove the Tray 2 Rear Cover.
☞ 2-41
2. Remove all the Connectors on the Tray 2 Board.

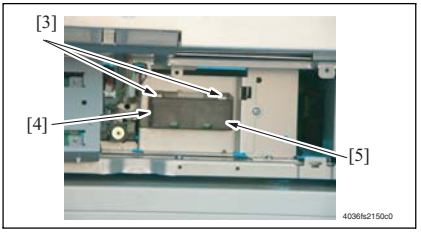


3. Remove four Screws [1], and remove the Tray 2 Board [2].

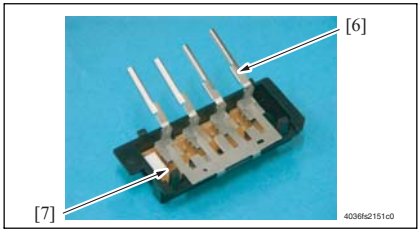
4.3.23 Tray 2 Paper Size Board



1. Slide out the Tray 2.
2. Remove the Tray 2 Rear Cover.
☞ 2-41
3. Remove three Screws [1], and remove the Tray 2 Board Fixing Bracket [2].

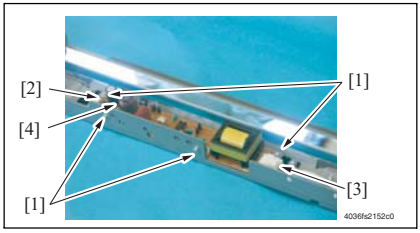


4. Remove two Claws [3] and Connector [4], and remove the Tray 2 Paper Size Board Assy [5].



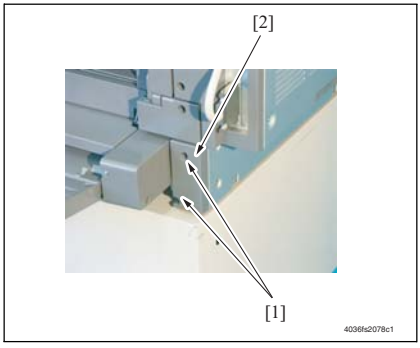
5. Remove the Lever [6], and remove the Tray 2 Paper Size Board [7].

4.3.24 Inverter Board

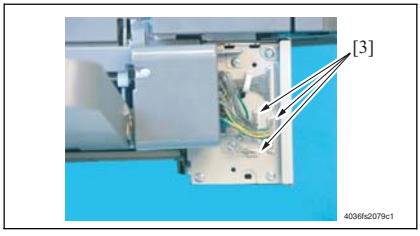


1. Remove the Scanner Assy.
☞ 2-65
2. Remove four Screws [1], Flat Cable [2] and Connector [3], and remove the Inverter Board [4].

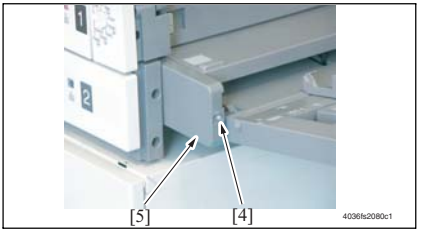
4.3.25 Multi Bypass Unit



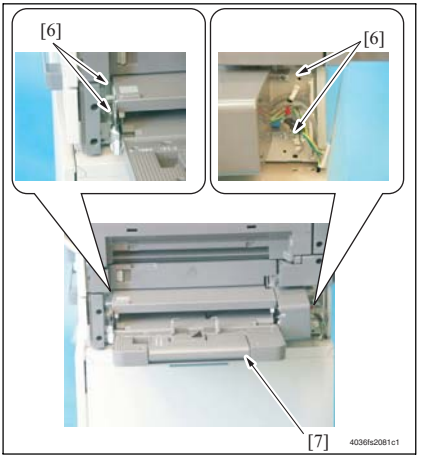
1. Remove two Screws [1], and remove the Tray 2 Rear Right Cover [2].



2. Remove three Connectors [3].



3. Remove the Screw [4], and remove the Bypass Left Cover [5].



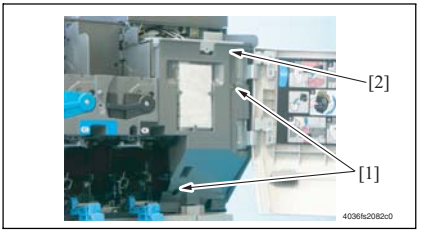
4. Remove four Screws [6], and remove the Multi Bypass Unit [7].

4.3.26 Toner Hopper Unit

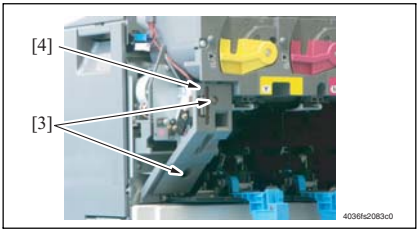
1. Open the Front Door.
2. Remove the Toner Cartridge (C, M, Y, Bk).
3. Remove the IU (C, M, Y, Bk).

NOTE

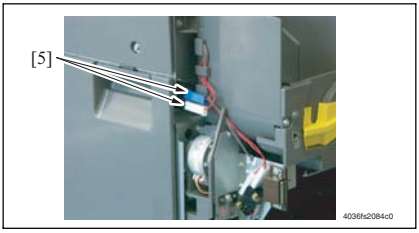
- **After the Imaging Unit has been removed from the main unit wrap it in the light shielding cloth and store it in a dark place. DO NOT leave the Imaging Unit exposed to light for a extended period of time as it will become damaged.**



4. Remove the Left Front Cover and Panel Cover.
☞ 2-40
5. Remove two Screws [1], and remove the Front Right Cover [2].



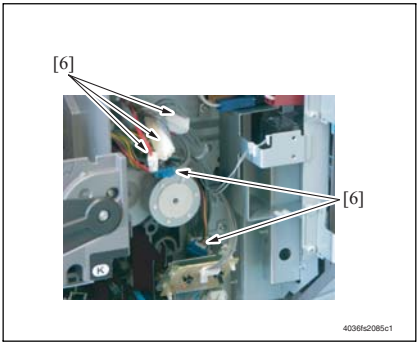
6. Remove two screws [3] and the Front Door Switch cover [4].



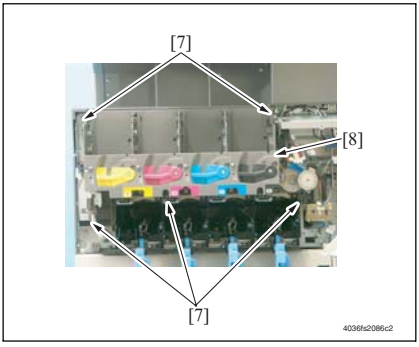
7. Remove two Terminals [5].

NOTE

- **For installation of Hopper Unit, connect the Terminals in the sequence of blue and then white from upper.**



8. Disconnect five connectors [6].



9. Remove five screws [7] and the Toner Hopper Unit [8].

4.3.27 LPH Unit

1. Open the Front Door.
2. Slide out the IU (C, M, Y, Bk).

NOTE

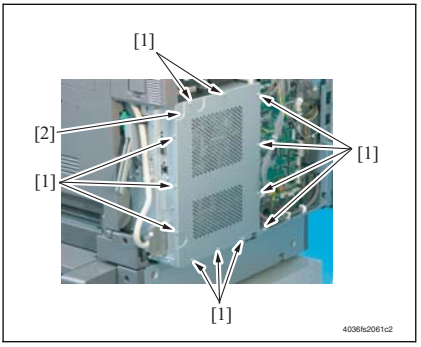
- **After the IU has been pulled out, place the IU lock lever back into the locked position. When installing the Imaging Unit into the main unit, make sure that the Toner supply shutter is opened if the Imaging Unit Lower Cover is not used.**

3. Remove the Image Transfer Belt Unit.

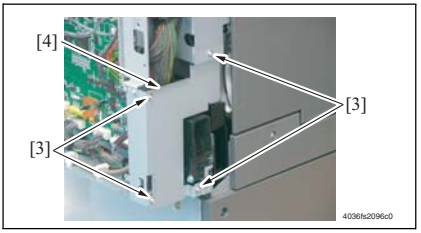
☞ 2-23

4. Remove the Rear Right Cover, Rear Left Cover, Rear Cover and Upper Rear Cover.

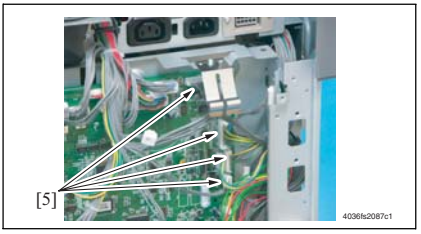
☞ 2-39



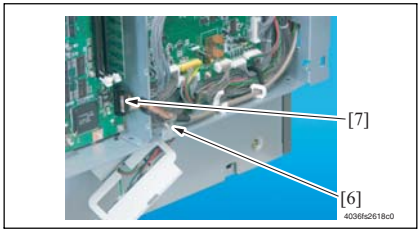
5. Remove 12 Screws [1], and remove the Protective Shield [2].



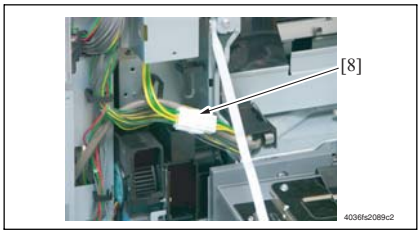
6. Remove four Screws [3], and remove the Harness Protective Cover [4].



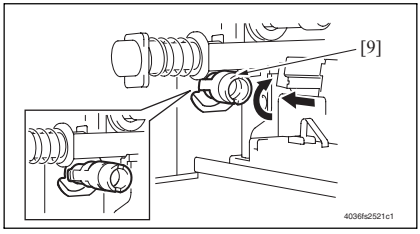
7. Remove four Connectors [5] on the Control Board.



8. Remove the Screw [6] and Connector [7].



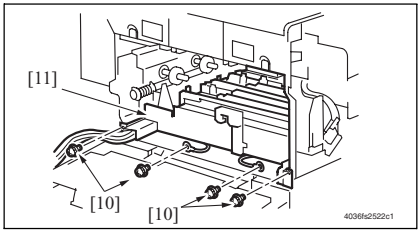
9. Remove the Connector [8].



10. Turning the IU (C, M, Y, Bk) drive hub [9], push it into the locked position (at four places).

NOTES

- **During the locking procedure, use care not to touch the LED surface.**
- **Should the LED surface be touched, clean it with the LED Cleaning Jig.**

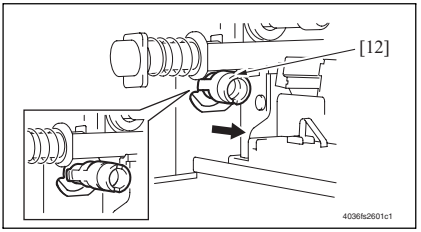


11. Remove four screws [10] and slide out the LPH Unit [11].

NOTE

- **When the LPH Unit is to be replaced, remove the ATDC Sensor from the old LPH Unit and remount it on the new one. This step is not, however, necessary if the IU is replaced at the same time.**

☞ For replacement of ATDC Sensor, see 2-92.



NOTES

- **After replacing the LPH Unit, be sure to turn four Drive Hubs [12] to release locking. Proceeding with job while still being locked may unintentionally release the locking condition, thus damaging the Drive hub.**
- **For installation of the LPH Unit, lock four Drive hubs again before installation.**
- **When the LPH Unit has been reinstalled, be sure to run "Stabilizer" available from "Image Adjust" of the Tech. Rep. mode.**

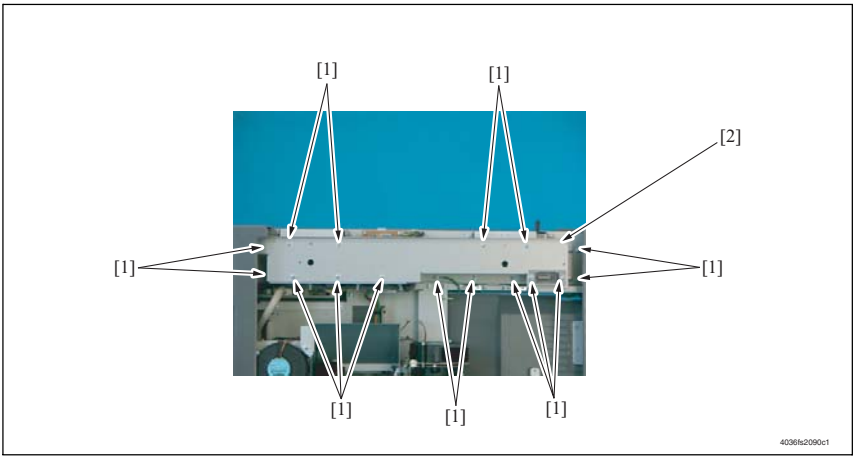
4.3.28 Scanner Motor

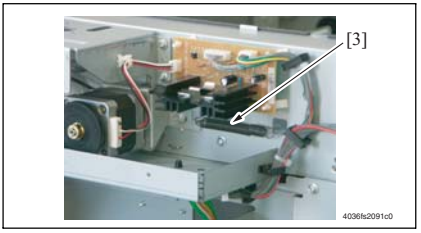
A. Removal Procedure

1. Remove the Rear Cover and IR Upper Rear Cover.

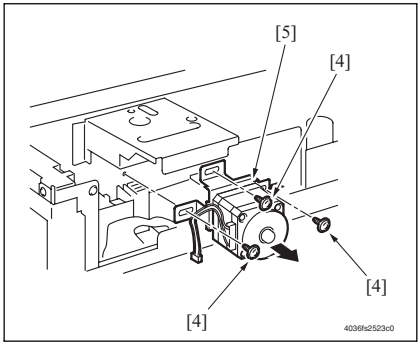
☞ 2-41

2. Remove 16 screws [1] and the reinforcement frame [2].

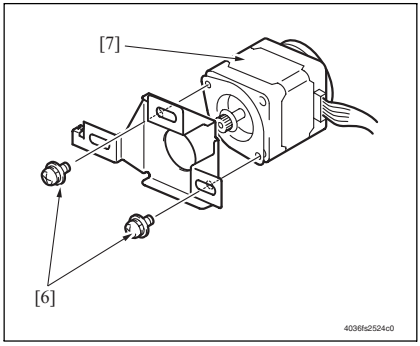




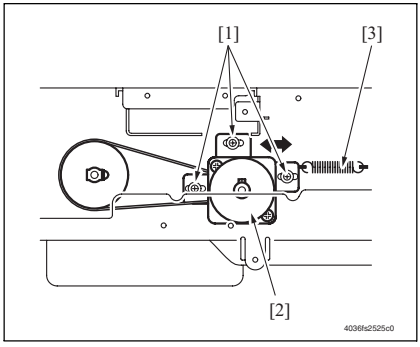
3. Remove the tension spring [3] for the Scanner Motor timing belt.



4. Remove three screws [4] and the Scanner Motor Assy [5].



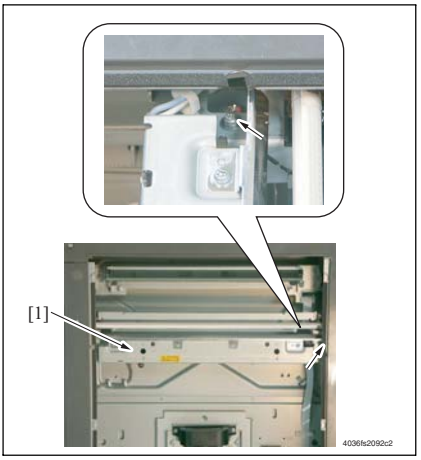
5. Remove two screws [6] and the Scanner Motor [7].



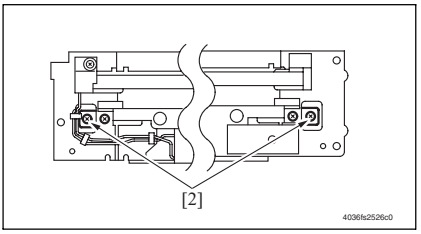
B. Reinstallation Procedure

1. Temporarily secure the Scanner Motor Assy [2] using three screws [1].
2. Hook the spring [3].
3. With the Scanner drive gear set screw located on the right-hand side as shown on the left, slide the Scanner Motor Assy to the left and check that it is returned to the original position by the tension of the spring. Perform this step three times.
4. Securely tighten the three screws to fix the Scanner Motor Assy [2] into position.

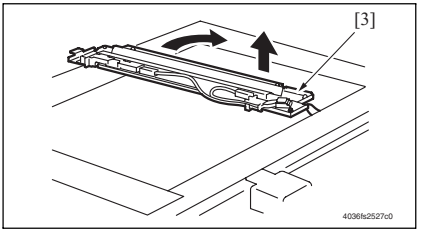
4.3.29 Scanner Assy



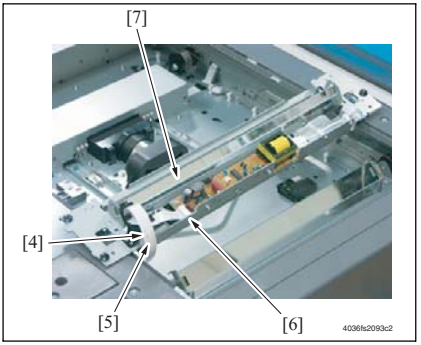
1. Remove the Original Glass.
☞ 2-43
2. Move the Scanner Assy [1] to the location shown and remove one mounting screw each at the front and rear end.



NOTE
- **Do not remove the Scanner Positioning Screws [2].**



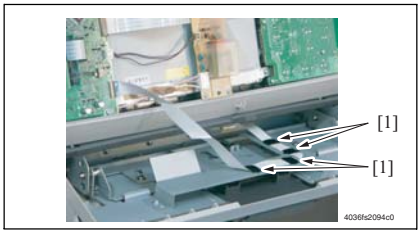
3. Take out the Scanner Assy [3] by turning it in the direction of the arrow shown.



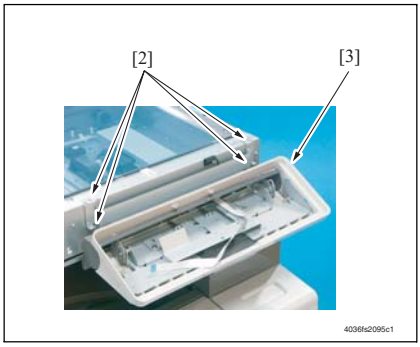
4. Remove the screw [4] and the holder [5].
5. Remove the flat cable [6].
6. Remove the Scanner Assy [7].

4.3.30 Scanner Drive Cables

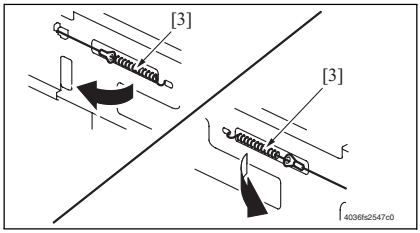
A. Removal Procedure



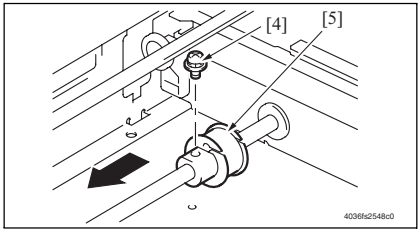
1. Remove the Rear Cover.
☞ 2-41
2. Remove the Control Panel.
☞ 2-43
3. Remove four Presser Bars [1] of Flat Cable.



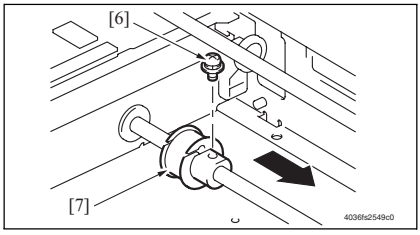
4. Remove the IR Front Cover.
☞ 2-43
5. Remove four screws [2] and the control panel base [3].



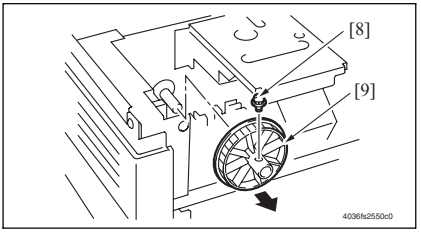
6. Remove the Original Glass.
☞ 2-43
7. Remove the Scanner Assy.
☞ 2-65
8. Unhook the springs [3] of the Scanner Drive Cables on the hook side, one each at the front and in the rear.



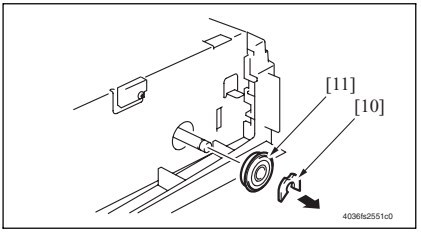
9. Remove the Scanner Motor Assy.
☞ 2-63
10. Remove the screw [4] and then slide the front pulley [5] toward the front.



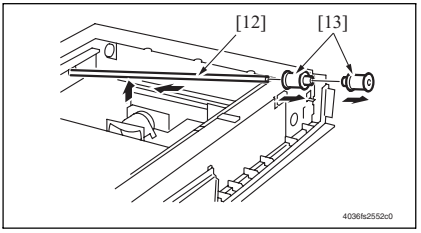
11. Remove the Screw [6], and slide the Wire Pulley [7] (Rear side) in the direction of front side.



12. Remove the screw [8] and the Scanner drive gear [9].



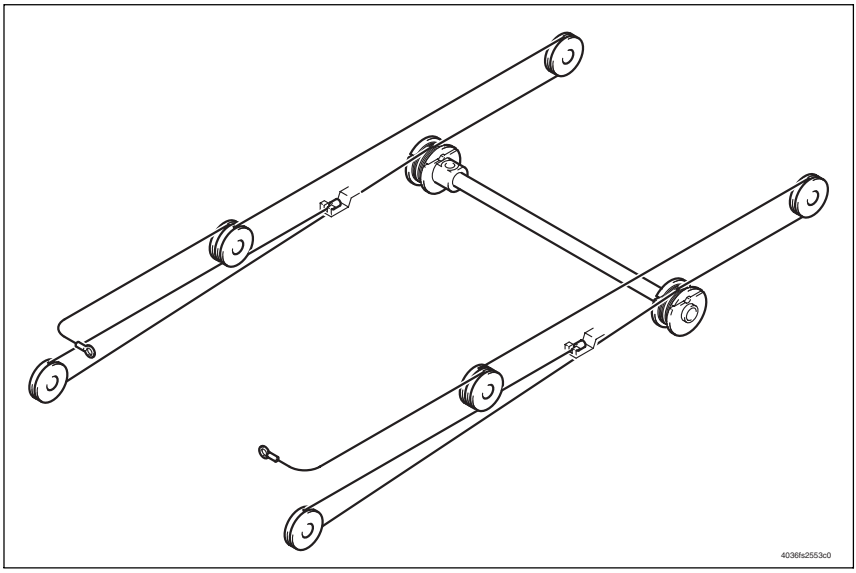
13. Snap off the C-clip [10] and remove the bushing [11] (front).



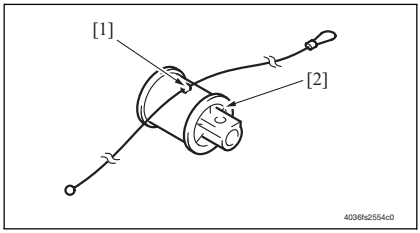
14. Slide the shaft [12] toward the rear and lift it. Then, remove the front and rear pulleys [13].
15. Remove the Scanner Drive Cables.

4.3.31 Winding of the Scanner Drive Cables

<Overall figure>



A. Reinstallation Procedure

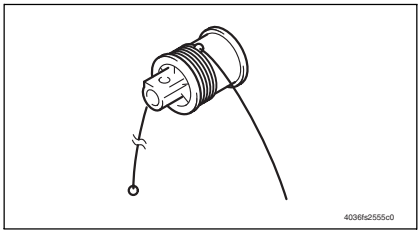


<Front>

1. Position the round bead [1] of the Scanner Drive Cable in the pulley [2] as shown.

NOTE

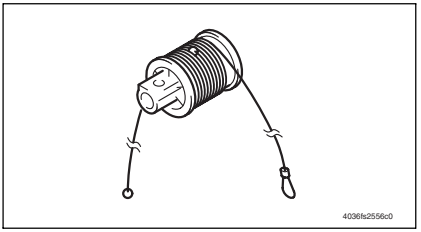
- **Make sure that the bead snugly rests in the slit in the pulley.**



2. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the rear toward the front side.

NOTE

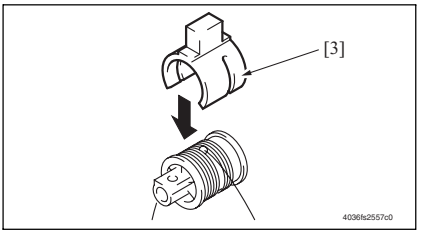
- **Make sure that no part of the cable rides on the other.**



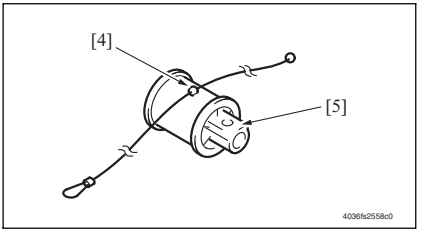
3. Wind the hook end of the cable around the pulley five turns counterclockwise, from the front toward the rear side.

NOTE

- **Make sure that no part of the cable rides on the other.**



4. Slip the Cable Holding Jig [3] onto the pulley to secure the cable in position.

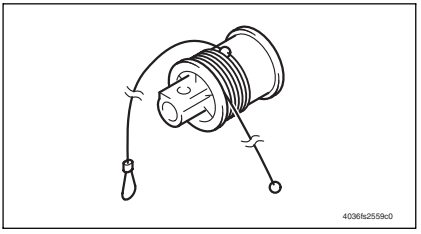


<Rear>

5. Position the round bead [4] of the Scanner Drive Cable in the pulley [5] as shown.

NOTE

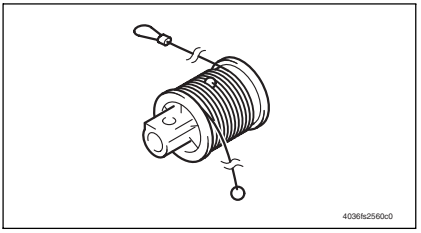
- **Make sure that the bead snugly rests in the slit in the pulley.**



6. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the front toward the rear side.

NOTE

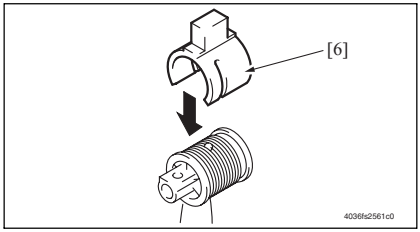
- **Make sure that no part of the cable rides on the other.**



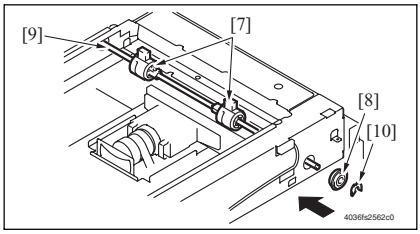
7. Wind the hook end of the cable around the pulley five turns counterclockwise, from the rear toward the front side.

NOTE

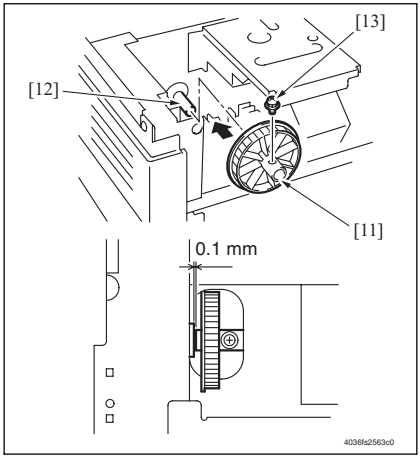
- **Make sure that no part of the cable rides on the other.**



8. Slip the Cable Holding Jig [6] onto the pulley to secure the cable in position.



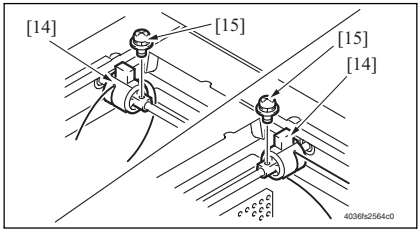
9. Install the front and rear pulleys [7] and bushings [8] onto the shaft [9] and fit the C-clip [10].



10. Mount the Scanner drive gear [11] on the shaft [12] and secure it using the screw [13].

NOTE

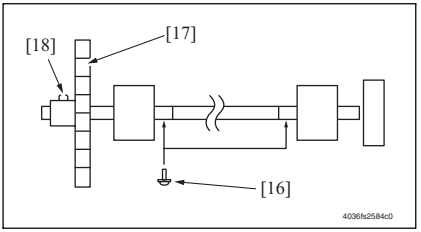
- **Allow a clearance of about 0.1 mm between the Scanner drive gear and bushing.**



11. Secure the front and rear pulleys [14] using the screw [15] each.

NOTE

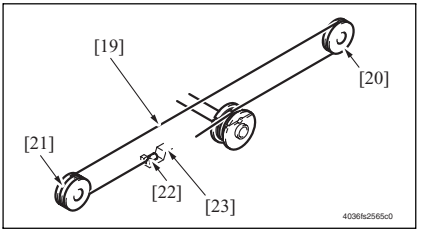
- **Apply the Screw lock on the Screw.**



NOTE

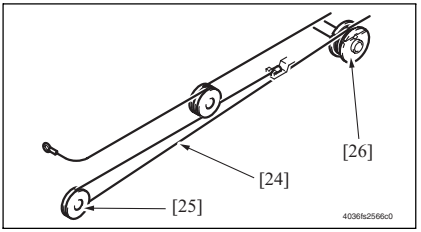
- **Mount the Screw [16] in the direction that is opposite against the direction for which Scanner Drive Gear [17] and Screw [18] are screwed together as shown in the left figure.**

12. Mount the Scanner Motor Assy.
☞ 2-63

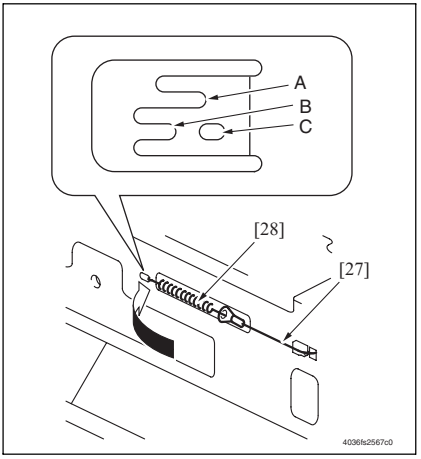


<Front>

13. Wind the bead end of the cable [19] around pulley C [20] and pulley B [21], then hook the bead [22] onto the Adjustable Anchor [23].



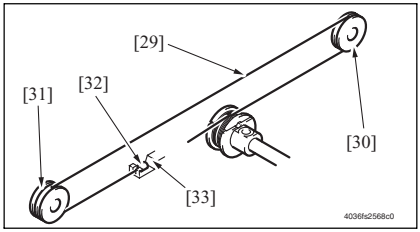
14. Wind the hook end of the cable [24] around pulley A [25] and pulley B [26].



15. Fit the hook end of the cable [27] to the spring [28] and then hook the spring to the catch A in the frame.
16. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

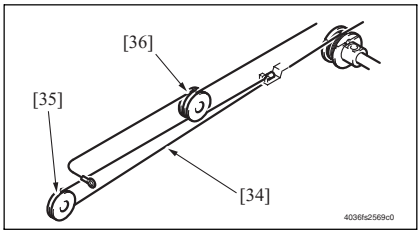
<When out of the given range>

- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.

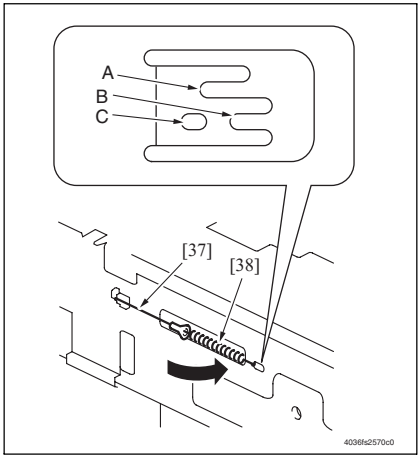


<Rear>

17. Wind the bead end of the cable [29] around pulley F [30] and pulley E [31], then hook the bead [32] onto the Adjustable Anchor [33].



18. Wind the hook end of the cable [34] around pulley D [35] and pulley E [36].



19. Fit the hook end of the cable [37] to the spring [38] and then hook the spring to the catch A in the frame.

20. Measure the Spring length, and check if its length is within the range of 63.0 mm ± 1 mm.

<When out of the given range>

- In case of 64.1 mm or more:
  Retry to put the spring on the catch B.
- In case of 61.9 mm or less:
  Retry to put the spring on the catch C.

21. Remove the Cable Holding Jigs from the front and rear pulleys.

22. Adjust the focus positioning of the Scanner and Mirrors Unit.

☞ 3-104

23. Adjust the position of the Scanner and 2nd/3rd Mirrors Carriage.

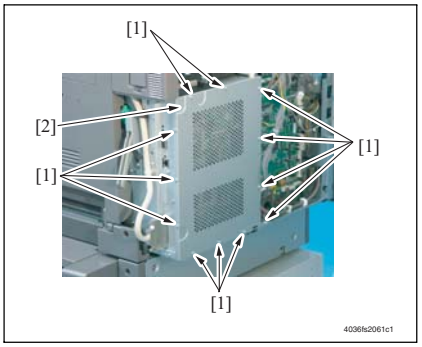
☞ 3-104

NOTE

- **Whenever the Scanner Drive Cables have been removed, be sure to carry out the "FD-Mag" adjustment procedure.**

☞ 3-46

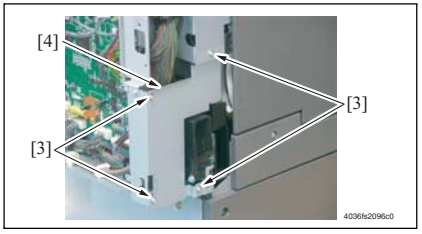
4.3.32 PWB Box



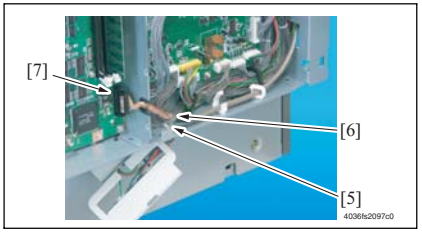
1. Remove the Rear Right Cover, Rear Left Cover, Rear Cover and Upper Rear Cover.

☞ 2-40

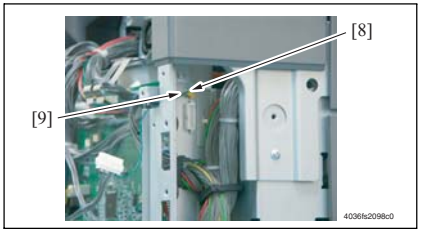
2. Remove 12 Screws [1], and remove the Protective Shield [2].



3. Remove four Screws [3], and remove the Harness Protective Cover [4].

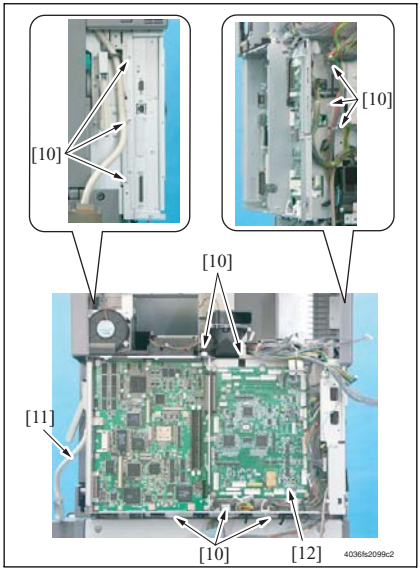


4. Remove the Screw [5], and remove the Wire Saddle [6].
5. Remove the Connector [7] on the MFP Control Board.



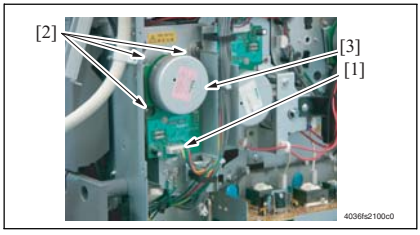
6. Remove the Screw [8], and remove the Earth cable [9].
7. Remove all the Connectors on the Control Board.

☞ See the procedure 2 of 2-48 “Removing of Control Board”.



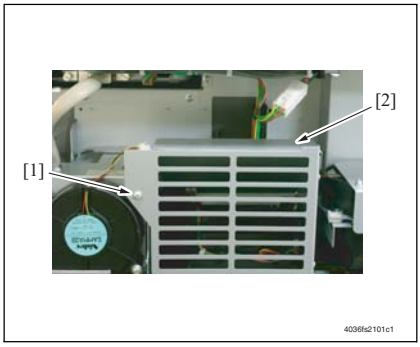
8. Remove 11 Screws [10] and two Connectors [11], and remove the PWB Box [12].

4.3.33 Main Motor

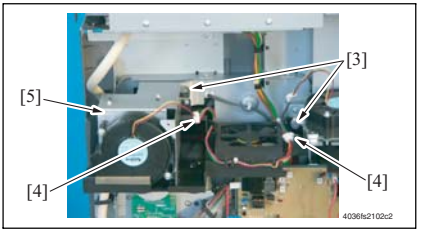


1. Remove the PWB Box.
☞ 2-73
2. Remove the Connector [1] and three Screws [2], and remove the Main Motor [3].

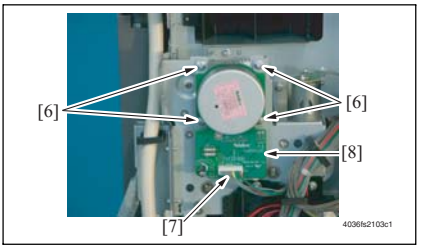
4.3.34 Fusing Drive Motor



1. Remove the PWB Box.
☞ 2-73
2. Remove the Screw [1], and remove the Fan Assy Protective Cover [2].

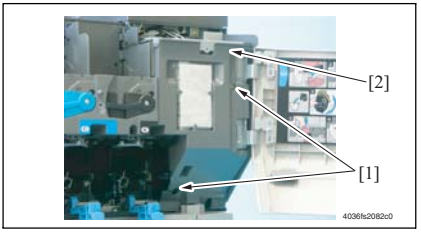


3. Remove two Shoulder screws [3] and two Connectors [4], and remove the Fan Assy [5].

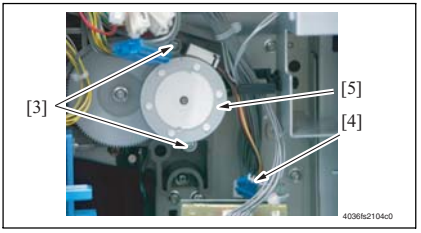


4. Remove four Screws [6] and Connector [7], and remove the Fusing Drive Motor [8].

4.3.35 Toner Supply Motor C/Bk

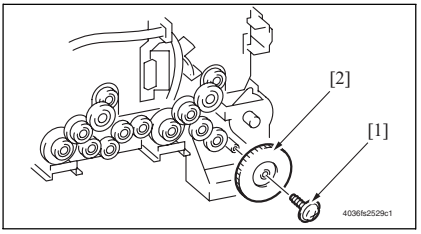


1. Remove the Panel Cover.
☞ 2-41
2. Remove two Screws [1], and remove the Front Right Cover [2].

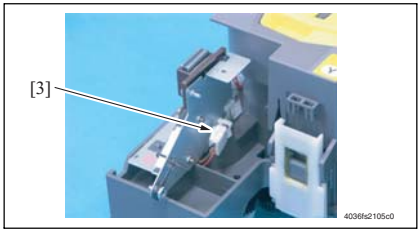


3. Remove two Screws [3] and Connector [4], and remove the Toner Supply Motor C/Bk [5].

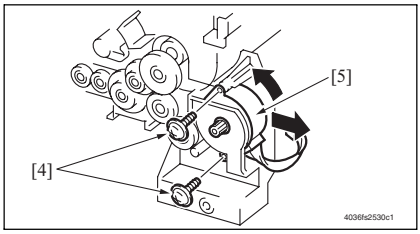
4.3.36 Toner Supply Motor Y/M



1. Remove the Toner Hopper.
☞ 2-59
2. Remove the screw [1] and the gear [2].

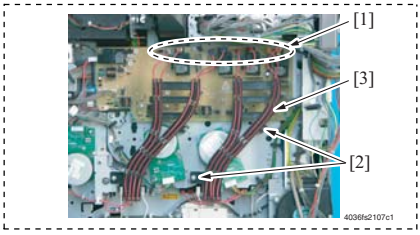


3. Remove the Connector [3].

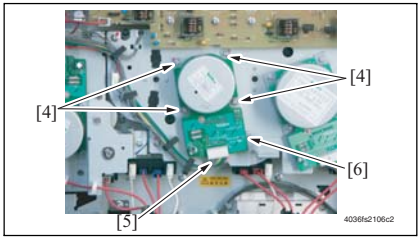


4. Remove two screws [4]. Then, turn the Toner Replenishing Motor Y/M [5] counterclockwise and take it off the machine.

4.3.37 Color PC Drum Motor



1. Remove the PWB Box.
☞ 2-73
2. Remove four Connectors [1] on the High Voltage Unit/1.
3. Remove two Screws [2], and remove the Harness Holder [3].

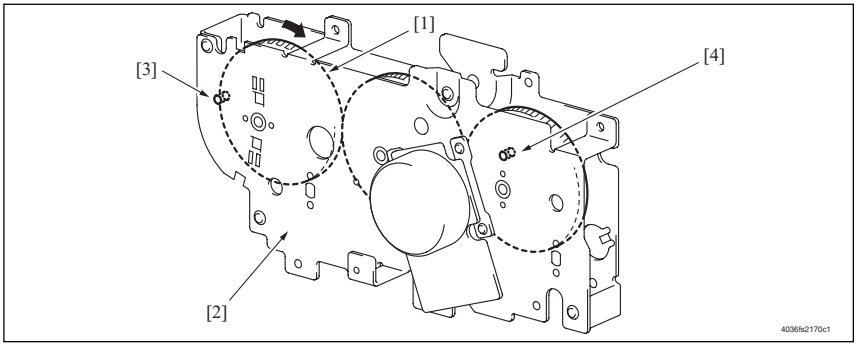


4. Remove four Screws (Red-painted) [4] and Connector [5], and remove the Color PC Drum Motor [6].

Cautions when mounting the Color PC Drum Motor:

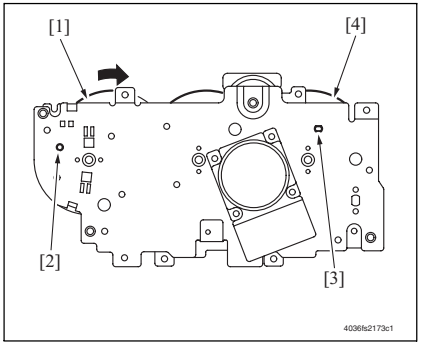
- **Before mounting the Color PC Drum Motor, be sure to check the assembled position of PC Gear. If its position is improper, make positioning adjustment.**

A. Checking method



1. Slowly turn the PC Gear/1 [1], and fit the hole A [3] and B [4] with the Gear holes as shown on the above figure.

2. Visually check if the hole A [3] and B [4] are fit with each Gear hole at the same time.

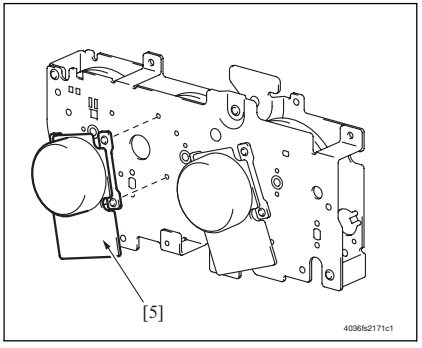


B. Adjusting method

1. Remove seven Screws and Upper Frame Assy.

2. Turn the PC Gear/1 [1], and fit the hole A [2] with the PC Gear/1 [1] hole while visually checking.

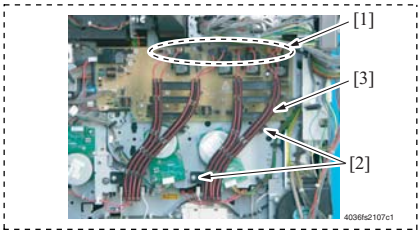
3. Fix the PC Gear/1 [1], and then fit the hole B [3] with the PC Gear/2 [4] hole while visually checking.



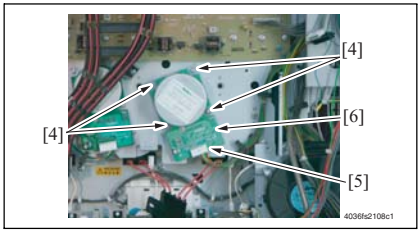
4. Mount the Color PC Drum Motor [5] while two hole positions are well set.

5. Reinstall the Upper Frame Assy.

4.3.38 Color Developing Motor



1. Remove the PWB Box.
☞ 2-73
2. Remove eight Connectors [1] on the High Voltage Unit/1.
3. Remove two Screws [2], and remove the Harness Holder [3].

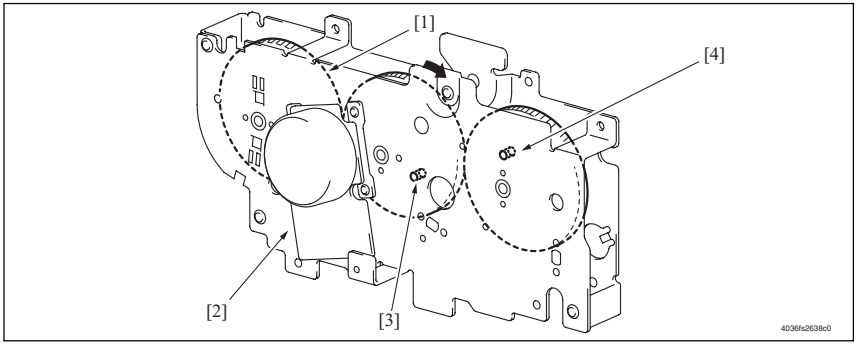


4. Remove four Screws [4] and Connector [5], and remove the Color Developing Motor [6].

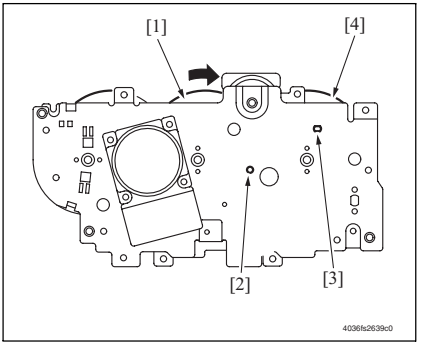
Cautions when mounting the Color Developing Motor:

- **Before mounting the Color Developing Motor, be sure to check the assembled position of PC Gear. If its position is improper, make positioning adjustment.**

A. Checking method

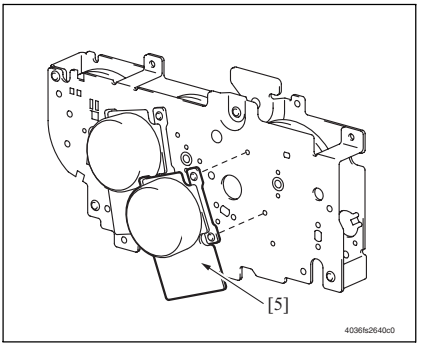


1. Slowly turn the PC Gear/1 [1], and fit the hole A [3] and B [4] with the Gear holes as shown on the above figure.
2. Visually check if the hole A [3] and B [4] are fit with each Gear hole at the same time.



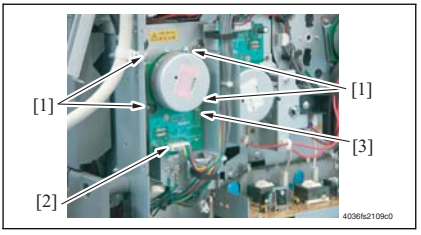
B. Adjusting method

1. Remove seven Screws and the Upper Frame Assy.
2. Turn the PC Gear/3 [1], and fit the hole C [2] with the PC Gear/3 [1] hole while visually checking.
3. Fix the PC Gear/3 [1], and then fit the hole B [3] with the PC Gear/2 [4] hole while visually checking.



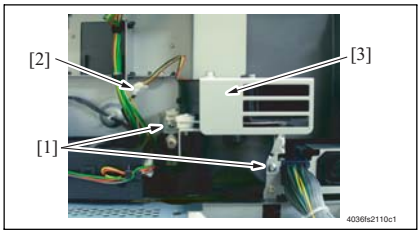
4. Mount the Color Developing Motor [5] while two hole positions are well set.
5. Reinstall the Upper Frame Assy.

4.3.39 Bk PC Motor

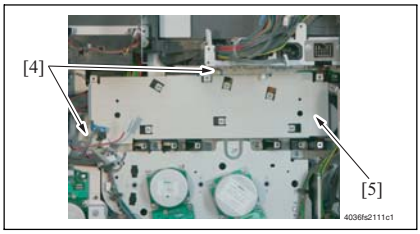


1. Remove the PWB Box.
☞ 2-73
2. Remove four Screws [1] and Connector [2], and remove the Bk PC Motor [3].

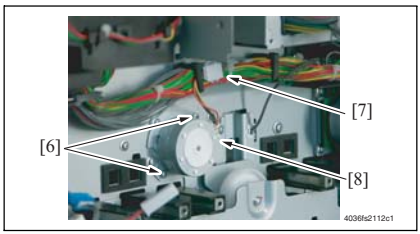
4.3.40 1st Image Transfer Pressure/Retraction Motor



1. Remove the PWB Box.
☞ 2-73
2. Remove the High Voltage Unit/1.
☞ 2-51
3. Remove two Screws [1] and Connector [2], and remove the Dust Suction Fan Assy [3].

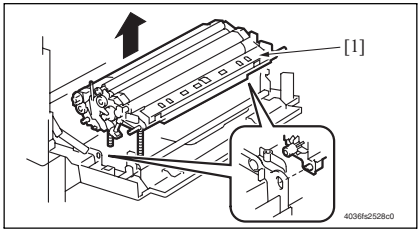


4. Remove two Screws [4], and remove the High Voltage Unit/1 Fixing plate [5].

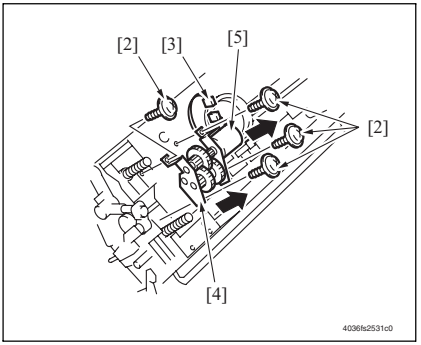


5. Remove two Screws [6] and Connector [7], and remove the 1st Image Transfer Pressure/Retraction Motor [8].

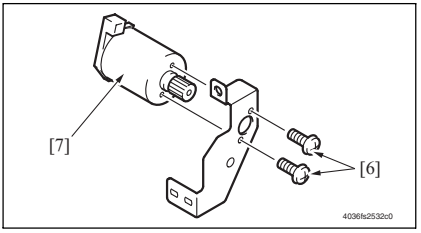
4.3.41 2nd Image Transfer Pressure/Retraction Motor



1. Open the Right Door.
2. Unlock the tab and remove the Transport Unit Assy [1].

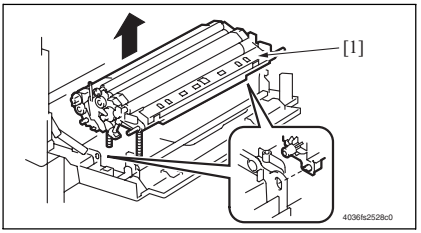


3. Remove four screws [2], unplug the connector [3], and remove the gear Assy [4] and motor Assy [5].

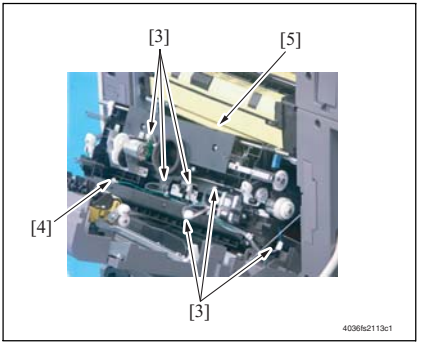


4. Remove two screws [6] and the 2nd Image Transfer Pressure/Retraction Motor [7].

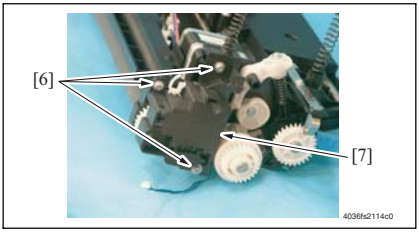
4.3.42 Intermediate Transport Motor



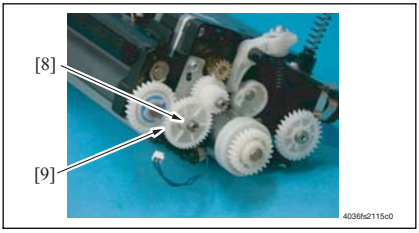
1. Open the Right Door.
2. Remove the Lock claw to make free conditions of Transport section Assy [1].



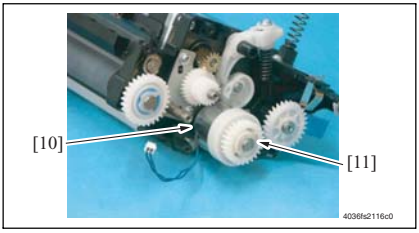
3. Remove six Connectors [3] and Earth [4], and remove the Transport section Assy [5].



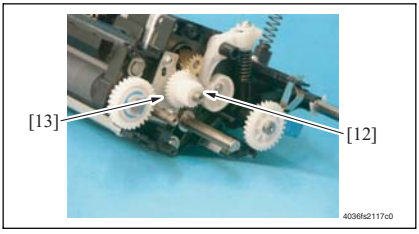
4. Remove three Screws [6], and remove the Holder [7].



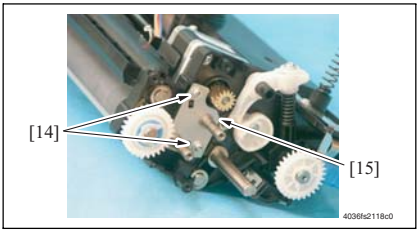
5. Remove the C-ring [8], and remove the Gear 1 [9].



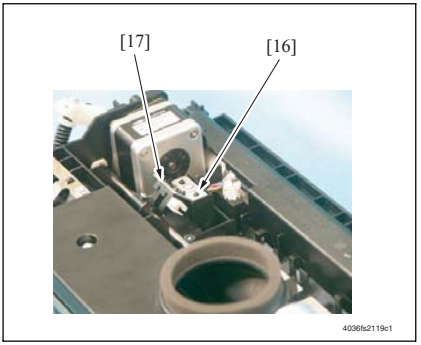
6. Remove the C-ring [10], and remove the Gear 2 [11].



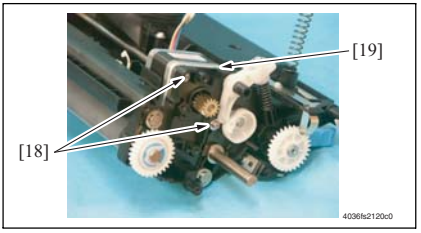
7. Remove the C-ring [12], and remove the Gear 3 [13].



8. Remove two Screws [14], and remove the Mounting plate [15].



9. Remove the Screw [16], and remove the Sensor Assy [17].

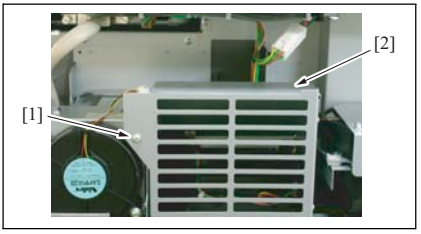


10. Remove two Screws [18], and remove the Intermediate Transport Motor [19].

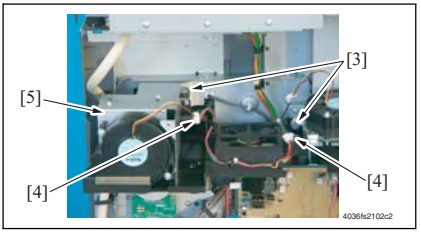
NOTES

- **Remove the Intermediate Transport Motor while its Harness is well fit with the groove.**
- **Use care on the harness not to be bitten.**

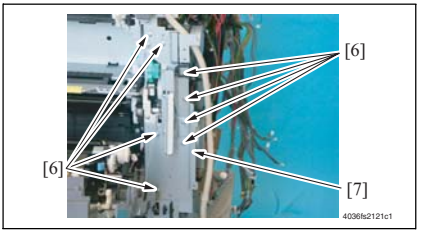
4.3.43 Fusing Pressure Roller Pressure/Retraction Motor



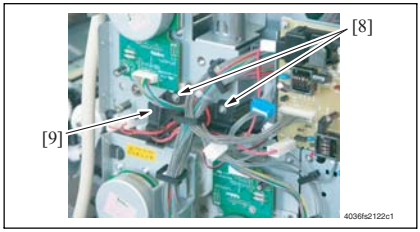
1. Remove the PWB Box.
☞ 2-73
2. Remove the Screw [1], and remove the Fan Assy Protective Cover [2].



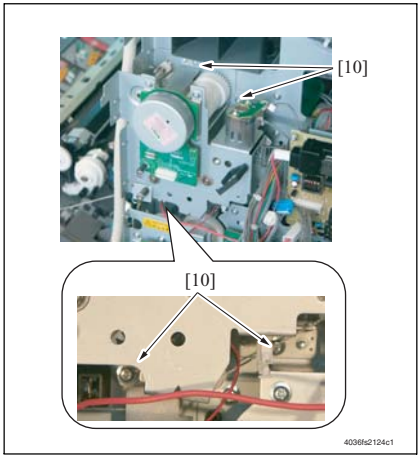
3. Remove two Shoulder screws [3] and two Connectors [4], and remove the Fan Assy [5].



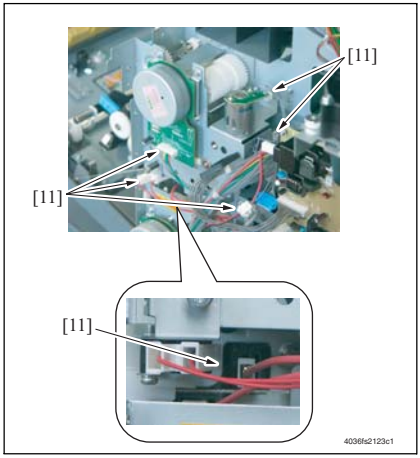
4. Open the Right Door.
5. Remove the Fusing Unit.
☞ 2-28
6. Remove the Wiring Cover.
☞ See the procedure 2 of 2-10 “Replacing of Paper Take-up Roller”.
7. Remove eight Screws [6], and remove the Rear Handle Assy [7].



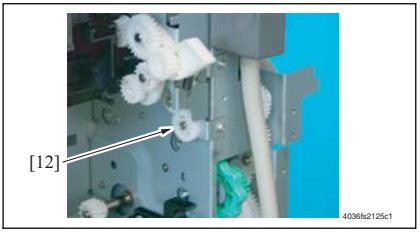
8. Remove two Screws [8], and remove the Harness Guide [9].



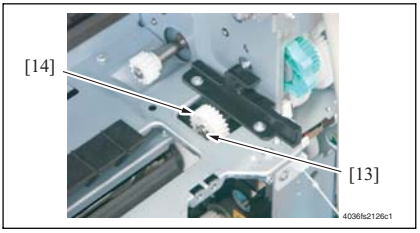
9. Remove four Screws [10].



10. Remove six Connectors [11].



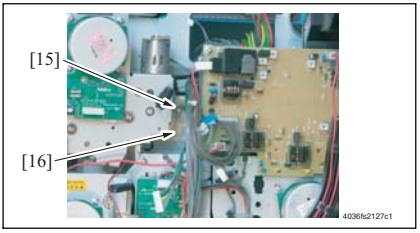
11. Remove the Gear [12].



12. Remove the E-ring [13], and remove the Gear [14].

NOTE

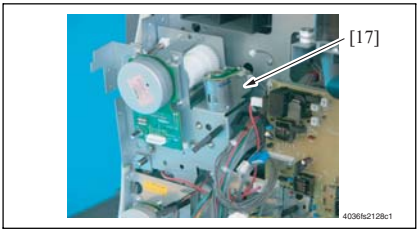
- **Use care not to miss the Shaft.**



13. Remove the Screw [15], and remove the Wire Rail [16].

NOTE

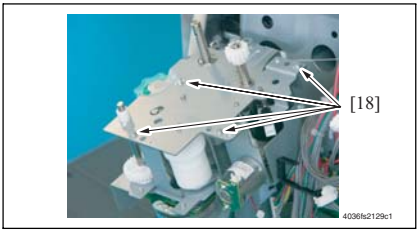
- **Close the Right Door when removing to prevent the wire from damaging.**



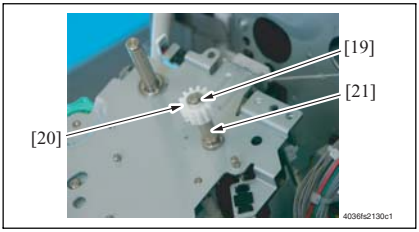
14. Remove the Fusing Drive Gear Assy [17].

NOTE

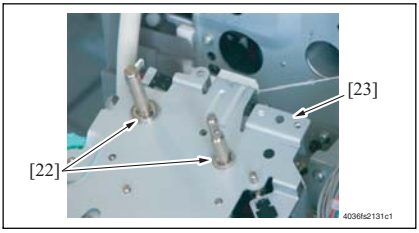
- **Use care not to hurt the Right Door wire and Harness around.**



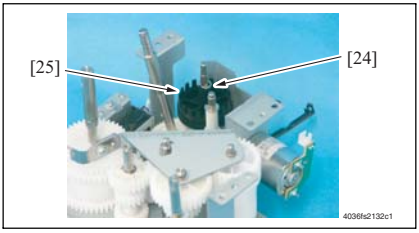
15. Remove four Screws [18].



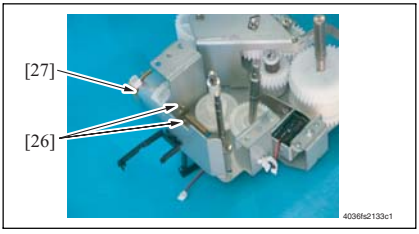
16. Remove the E-ring [19] and Shaft [20], and remove the Gear [21].



17. Remove two E-rings [22], and remove the Cover [23].

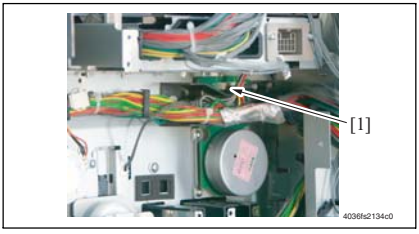


18. Remove the E-ring [24], and remove the Gear [25].



19. Remove the two Screws [26], and remove the Fusing Pressure Roller Pressure/Retraction Motor [27].

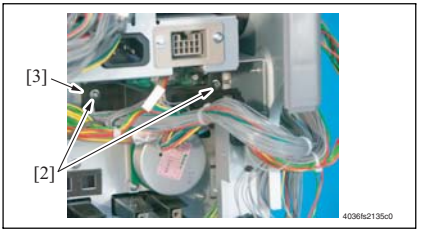
4.3.44 Cleaning Brush Motor



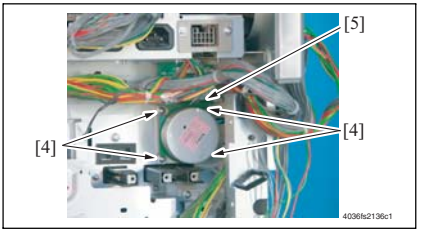
1. Remove the High Voltage Unit/1 mounting plate.

☞ See the procedures 1 to 4 of 2-80 “1st Image Transfer Pressure/ Retraction Motor”.

2. Remove the Connector [1].

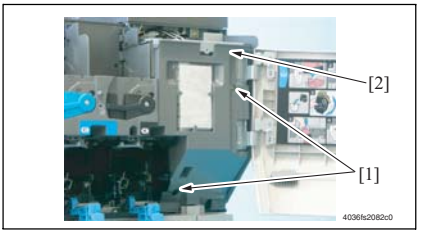


3. Remove two Screws [2], and remove the Harness Holder [3].

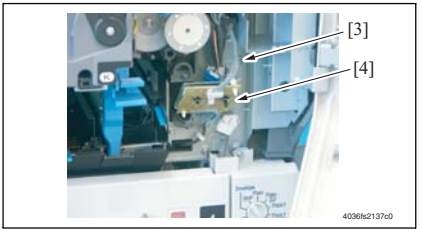


4. Remove four Screws [4], and remove the Cleaning Brush Motor [5].

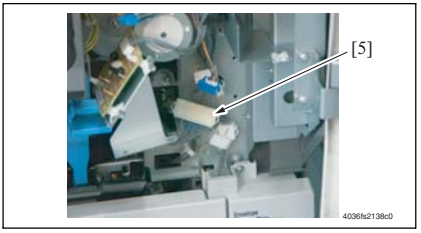
4.3.45 AIDC/Registration Sensor/1,2



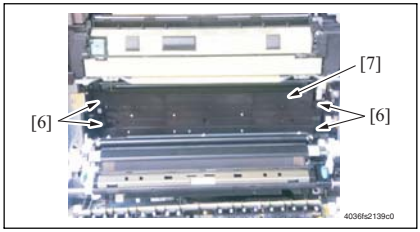
1. Open the Front Door.
2. Remove the Panel Cover.
☞ 2-41
3. Remove two Screws [1], and remove the Front Right Cover [2].



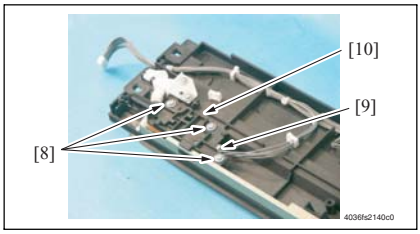
4. Remove the screw [3] and the Tech. Rep. Setting Switches Board Assy [4].



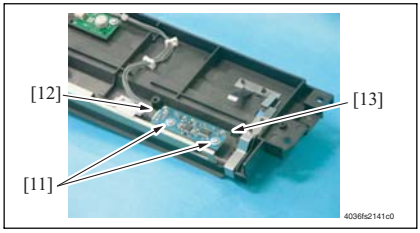
5. Remove the Connector [5].



6. Open the Right Door.
7. Remove four screws [6] and the Synchronizing Roller entrance guide [7].



8. Remove three Screws [8] and Connector [9], and remove the AIDC/ Registration Sensor/1 [10].

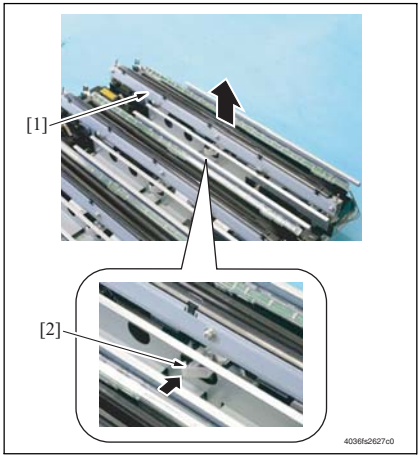


9. Remove two Screws [11] and Connector [12], and remove the AIDC/ Registration Sensor/2 [13].

NOTE

- **Whenever the AIDC/Registration Sensor/1,2 have been replaced, be sure to replace the Image Transfer Belt Unit.**

4.3.46 LPH

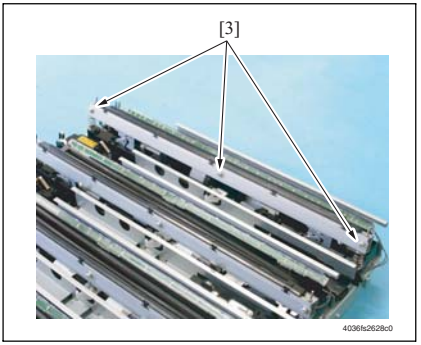


A. Removal Procedure

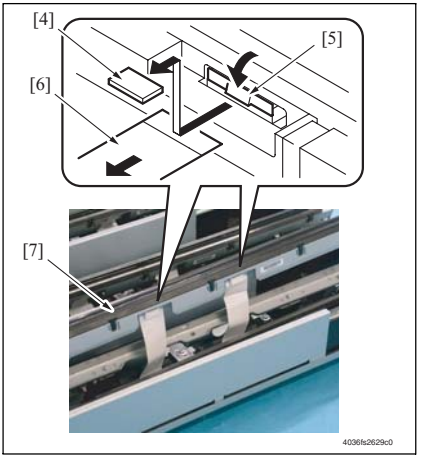
1. Remove the LPH Unit.
☞ 2-61
2. Holding the LPH Assy [1] with hands, unlock [2] it.

NOTES

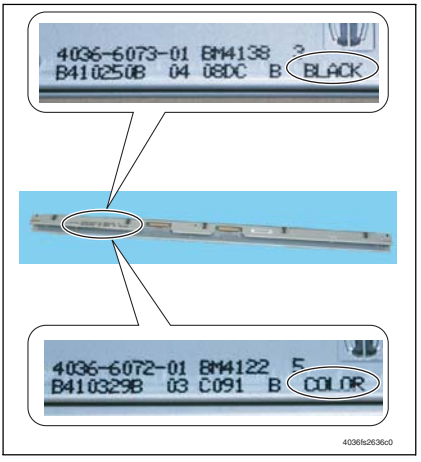
- **Do not touch the LED by hand. Clean the LED, if touched by hand, using the LED cleaning jig.**
- **Be careful about the spring that can spring off when the LPH Assy is unlocked.**
- **If the LPH Assy comes off position when the Lock is unlocked, the LPH Assy must be installed using the LPH Assy mounting jig.**



3. Remove the three LPH mounting screws [3].



4. Peel off the seal [4], unlock [5] the LPH Assy, and remove the flat cable [6].
5. Remove the LPH [7].
6. Perform the same procedure for each of different colors of LPH.

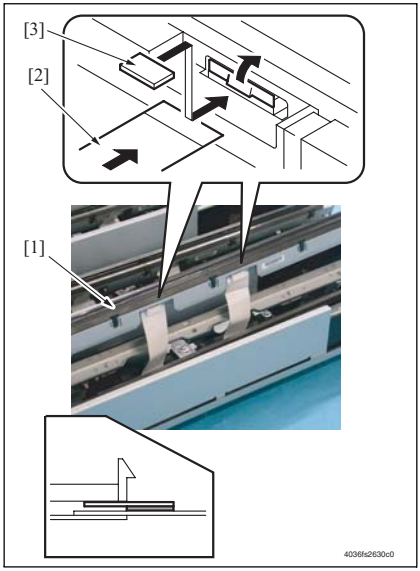


B. Reinstallation Procedure

NOTE

- **The LPH comes in two types, one for black and the other for color (common to Y, M, and C). At replacement, make sure of the type of the LPH, whether it is for black or color.**

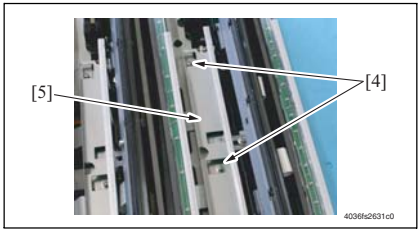
  <Check method>
  Determine the type of LPH using the marking on the side face of the LPH.
  The markings are:
  LPH for black: BLACK
  LPH for color: COLOR



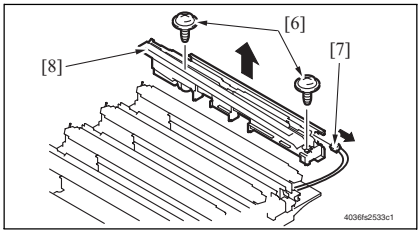
1. Insert the flat cable [2] into the LPH [1] and lock the LPH [1].
2. Affix the seal [3] that comes with the LPH Assy to the location shown on the left.

NOTE

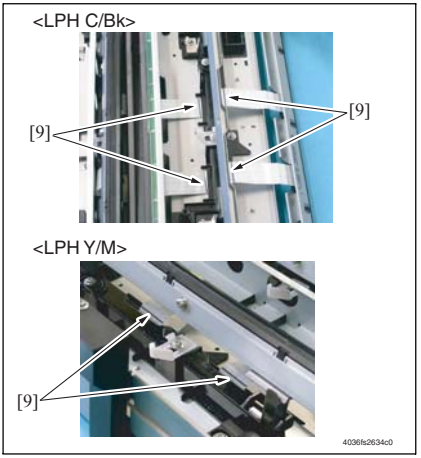
- **Failure to affix the seal could cause the flat cable to come off the LPH Assy.**



3. Remove two screws [4] and the Guide [5].



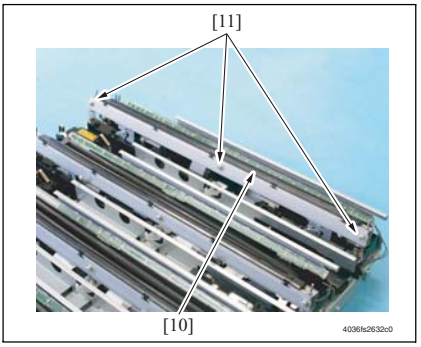
4. Remove two Screws [6] and Connector [7], and remove the guide Assy [8].



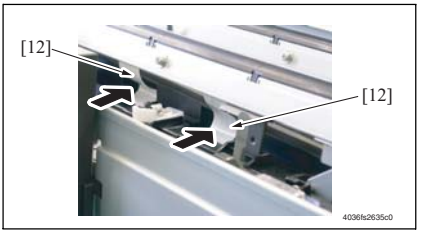
5. Align the markings [9] on the flat cable with the positions shown in the photo.
6. Install the Guide.

NOTE

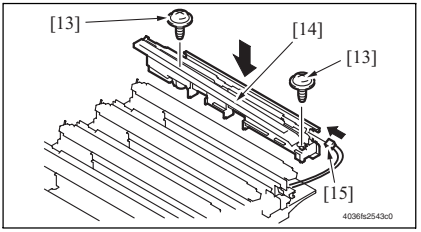
- **Make sure that no part of the flat cable is wedged in mechanisms or bent.**



7. Secure the LPH [10] using three screws [11].



8. Push the slack portion in the flat cable [12] into the inside of the machine.



9. Install the two screws [13] to secure the guide Assy [14].
10. Connect the connector [15].

NOTE

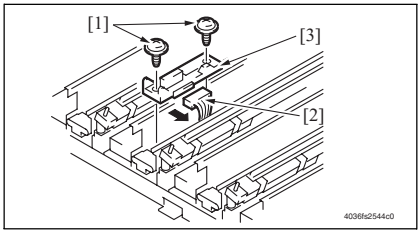
- **Make sure that no part of the flat cable is wedged in mechanisms or bent.**
- **Make sure that the flat cable is aligned with the groove in the Guide Assy.**

11. Press the LPH Assy [16] down into the locked position.

NOTES

- **Select "Tech. Rep. Mode" → "Machine Adjust" → "LPH Rank" and change the value of "LPH Rank" to "1".**
- **When the LPH Unit has been reinstalled, be sure to run "Stabilizer" available from "Image Adjust" of the Tech. Rep. mode.**

4.3.47 ATDC Sensor Y/M/C



1. Remove the LPH Unit.

☞ 2-61

2. Remove two screws [1], unplug the connector [2], and remove the ATDC Sensor.

NOTE

- **When the LPH Unit has been reinstalled, be sure to run "Stabilizer" available from "Image Adjust" of the Tech. Rep. mode.**

4.4 Mount the optional original size detecting sensors

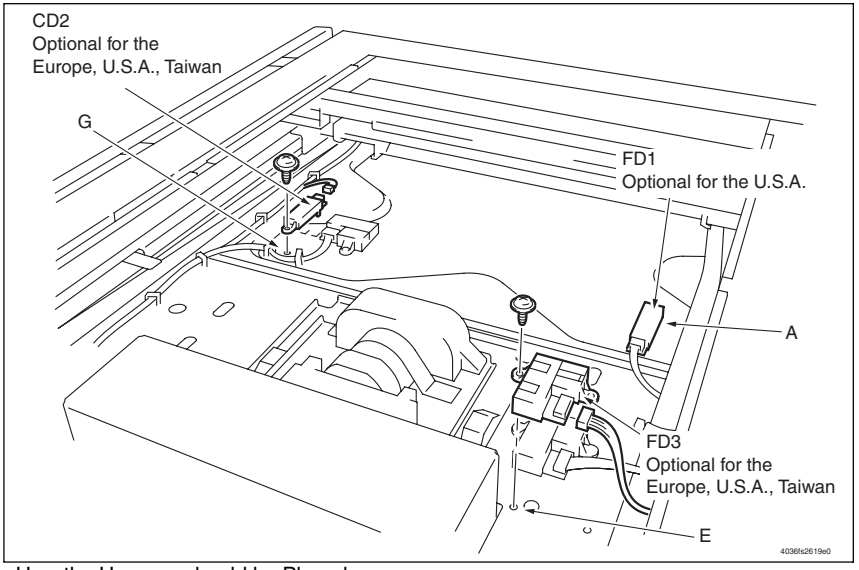
NOTE

- **When an Original Size Detecting Sensor has been added, select "SET" in "Org. Detect Option Sensor" of "System Input" available from the "Tech. Rep. Mode" and run "Org. Detect Sensor" of "Machine Adjust."**

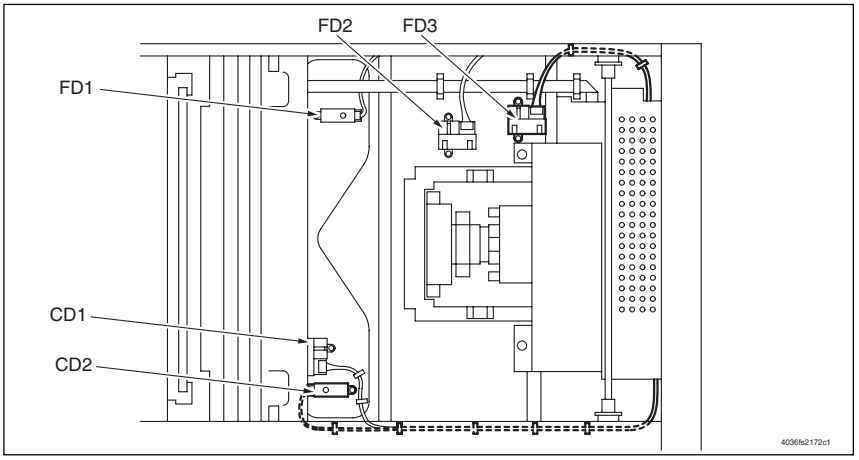
1. Remove the PWB Cover.

☞ See the procedures 1 to 4 of 2-47 "Image Processing Board".

2. Connect the connector of the Original Size Detecting Sensor to be added to the Image Processing Board.
3. Replacing the PWB Cover.
4. Mount the Original Size Detecting Sensor (option).

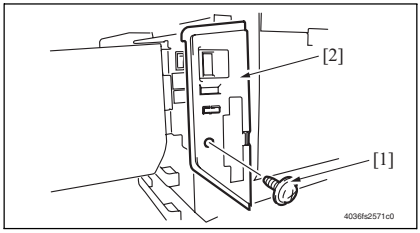


<How the Harness should be Placed>

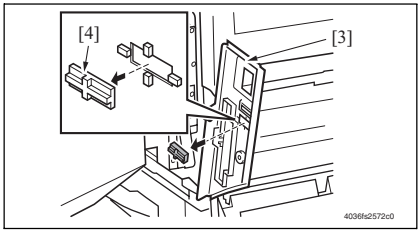


4.5 Option counter

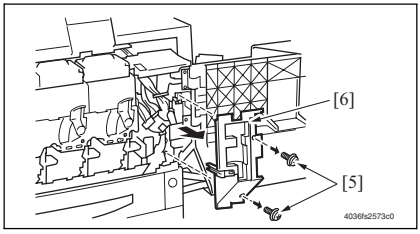
4.5.1 Installation of The Mechanical Counter



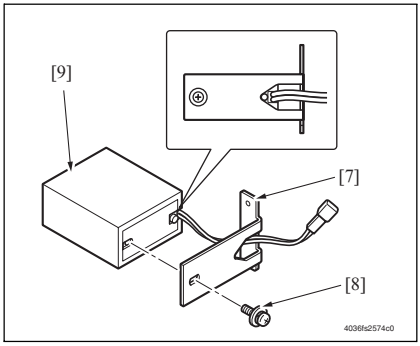
1. Open the Front Door.
2. Remove the Panel Cover.
☞ 2-41
3. Remove the Screw [1], and remove the Front Right Cover [2].



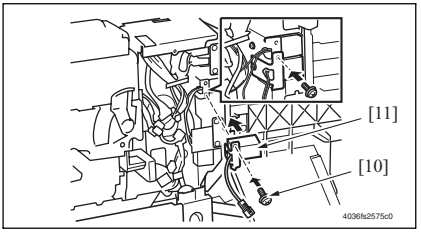
4. Cut out the knockout [4] in the Front Right Cover [3].



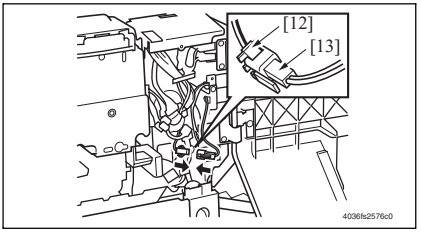
5. Remove two screws [5] and the Right Front Cover [6].



6. Install the Mounting plate [7] on the Mechanical Counter [9] with the Screw [8].

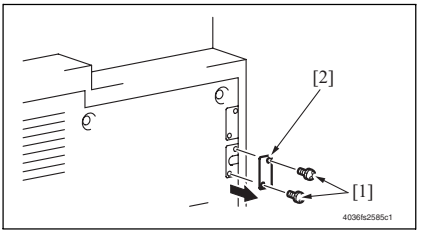


7. Secure the mechanical counter [11] with the screw [10].



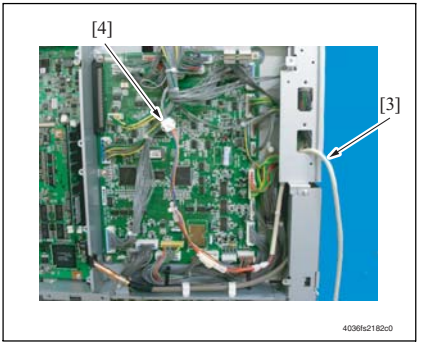
8. Mount the Connector [12] of Mechanical Counter on the Relay Connector [13] at main body side.

4.5.2 Installation method for the Key Counter

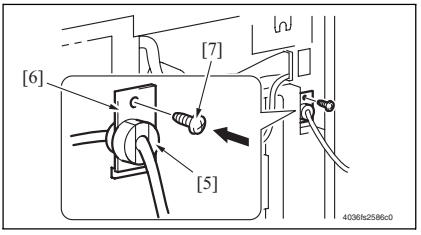


1. Remove two Screws [1], and remove the Cover [2].
2. Remove the Lower Rear Cover.

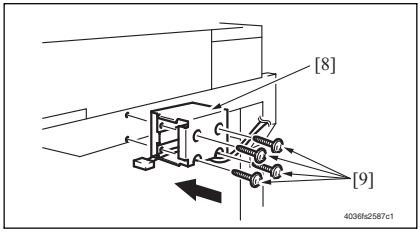
☞ 2-41



3. Pass the Key Counter Harness [3] through the hole.
4. Mount the Connector [4].



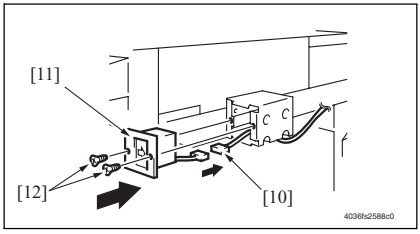
5. Secure the counter cable [5] and cable holder [6] with one screw [7].
6. Reinstall the Rear Cover.



7. Using four screws [9], secure the Counter Mounting Bracket [8].

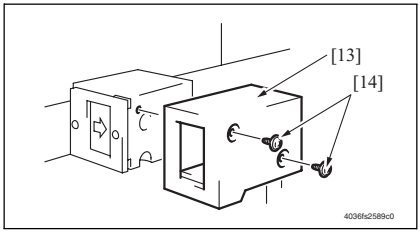
NOTE

- **Secure the Counter Mounting Bracket passing the connector into the bracket.**
- **Use the four long screws (9646-0418-14: M4x18) in the Key Counter Kit to secure the Counter Mounting Bracket.**
  When installing the Key Counter to the other products, use the short screws (9646-0408-14: M4x8).

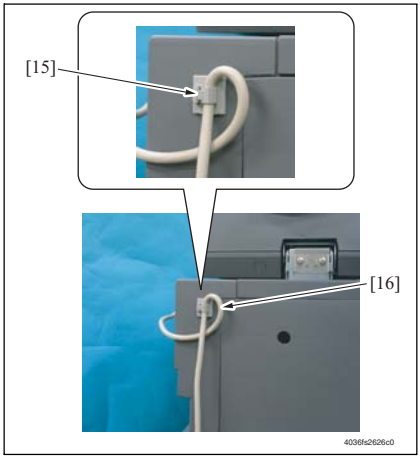


8. Connect the Key Counter Socket connector [10].

9. Using two screws [12], secure the counter socket [11].



10. Using two screws [14], secure the Key Counter Cover [13].



11. Fix the harness [16] with the cable clamp [15] as shown in the left figure.

12. Select “Security Mode” → “Admin. Choice” → “Key Counter” and set “Set.”

III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. Adjustment item list

Adjustment/Setting Items				NO	Replace Paper Take-Up Roller	Replace Paper Separator Roll Assy	Change Paper (1st Drawer) Kind	Change Marketing Area	Install Duplex Unit	Install Paper Feed Unit	Replace CCD Unit	Replace Mirror Unit	Replace IU	Replace Image Transfer Belt Unit	Replace Image Transfer Roller Unit
Tech. Rep. Mode	Machine Adjust	PRT Area	Top Margin	1			❍								
			Left Margin	2						❍					
			Dup. Margin	3					❍						
			Zoom for FD	4							(1)	(3)			
		LPH Chip Adjust		5											
		LPH Rank (Changes to 1)		6											
		IR Area	Top Margin	7											
			Left Margin	8							(3)				
			CD-Mag	9							(2)				
			FD-Mag	10								(4)			
		Org. Detect Sensor Adjust		11				❍							
		Touch Panel Adjust		12											
		Memory/ Hard Disk	Hard Disk R/W	13											
			Hard Disk Format	14											
	ROM Version			15											
	System Input	Reentry of Setting Values		16											
		Org. Detect Option Sensor		17											
		Serial # Input		18											
		Hard Dis		19											
	Administrator # Input			20											
	Counter	Life	Counter Clear	21	❍	❍									❍
	Gradation Adjust			22									❍	❍	
Re-entry of Utility settings				23											
Re-entry of Security settings				24											
Parallel adjustment of Scanner/Mirrors Carriage				25								(1)			
Positioning Exposure Unit				26								(2)			
Scanner Motor timing belt adjustment				27											
F/W upgrading				28											
Installation of Original Size Sensor				29											
Remounting of ROM (Control Board)				30											
Remounting of RAM (MFP Control Board)				31											
⚠1 Replace Image Transfer Belt Unit				32											

✻ This table shows the adjustment items that are required when a part of the machine has been replaced. Priority order, if applicable, during the adjustment procedures is indicated by the corresponding number in the circle.

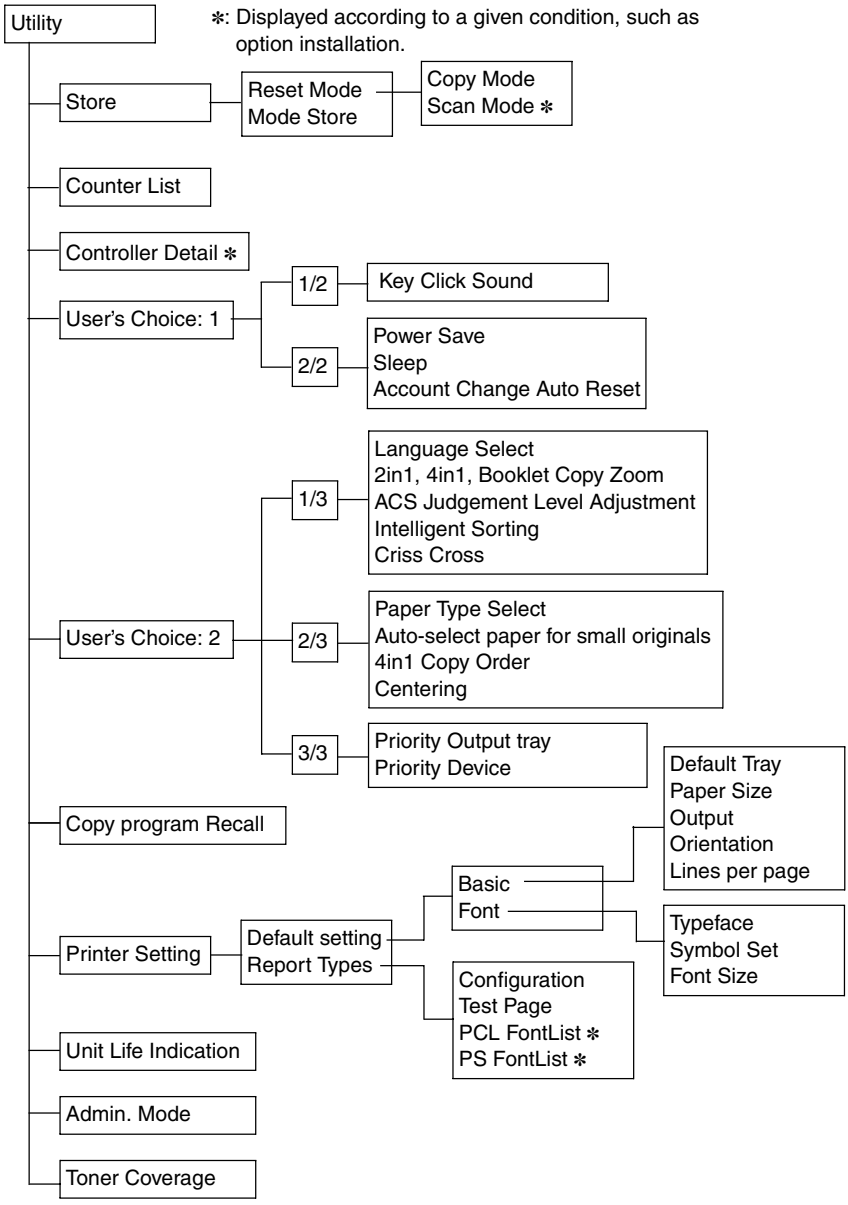
NO	Replace Paper Dust Remover	Replace Original Size Detecting Sensor	Replace LPH Assy	Replace LPH Unit	Wind Scanner Drive Cables	Replace Scanner Motor	Replace Scanner Assy	Replace Scanner Home Sensor	Replace Control Board	Replace MFP Control Board	Replace Image Processing Board	Replace Original Glass	Replace Original Width Scale	Replace AIDC/Registration Sensor/1,2	Add Hard Disk	Add Key Counter D-103	Execute Memory Clear	Execute Add. Option	Execute F/W update
1			(3)	(3)															
2			(4)	(4)															
3																			
4					(4)	(2)	(2)												
5			(2)	(2)															
6			(1)	(1)															
7												(2)	❍						
8								❍				(1)							
9																			
10					(5)	(3)	(3)												
11		(3)																	
12																	(8)		
13															(3)				
14															(2)				
15																		❍	❍
16																	(5)		
17		(2)															(2)		
18																	(3)		
19															(1)		(4)		
20																	(6)		
21	❍																		
22																			
23																	(1)		
24																❍	(7)		
25					(2)														
26					(3)		(1)												
27					(1)	(1)													
28									(2)	(2)	❍								
29		(1)																	
30									(1)										
31										(1)									
⚠1 32														❍					

III Adjustment/Setting

3. Utility Mode

3.1 Utility Mode function tree

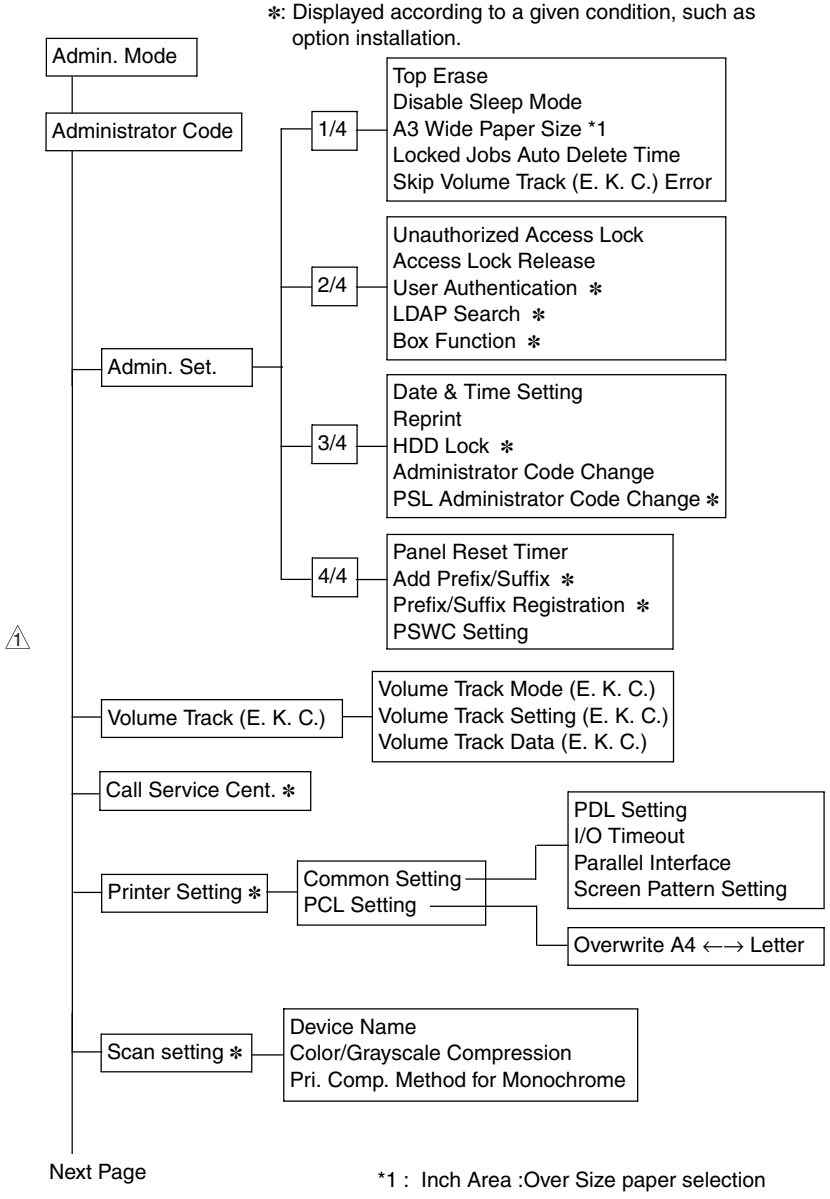
✻ The function tree is shown to comply with the format displayed on the screen.



3.1.1 Administrator Mode function tree

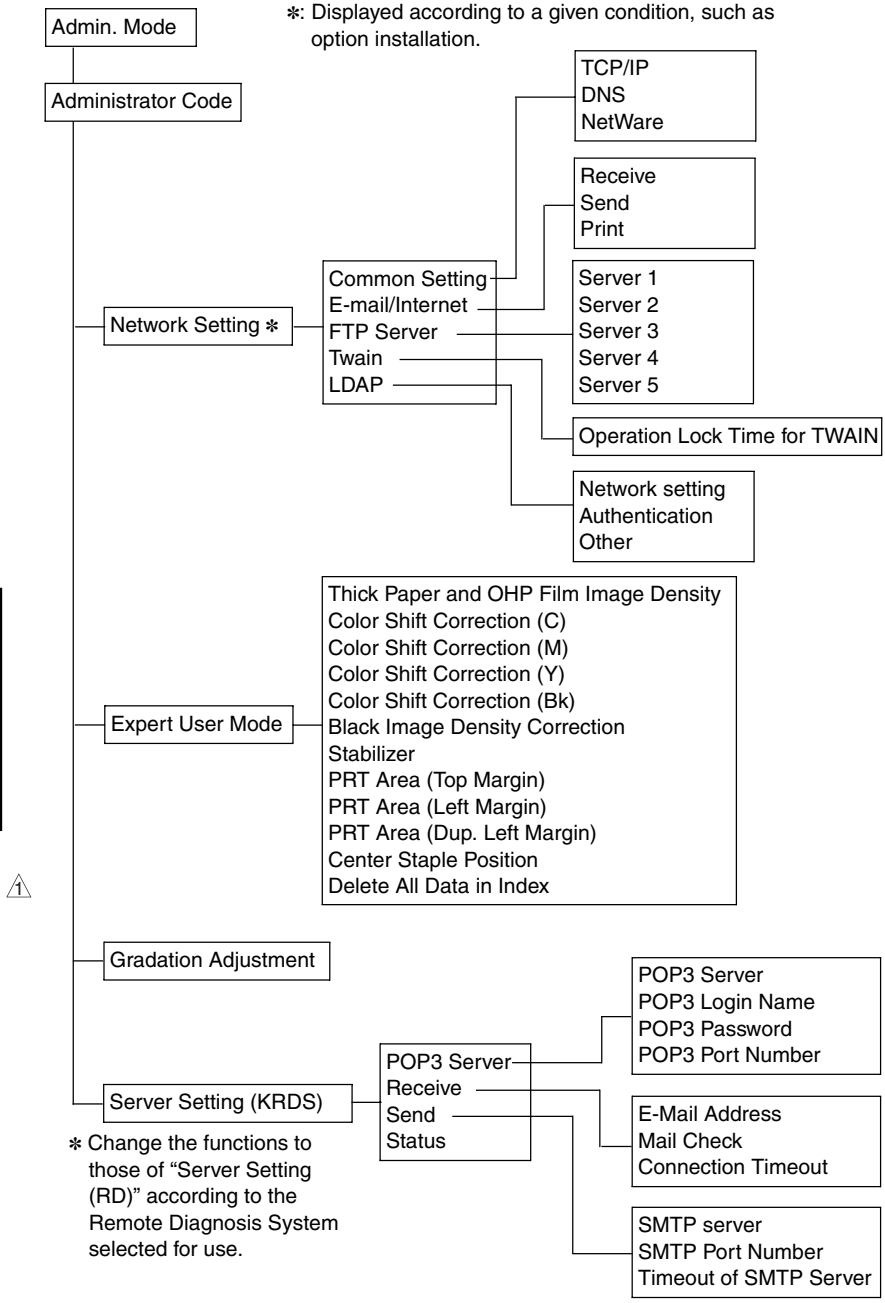
Administrator Mode 1/2

✻ The function tree is shown to comply with the format displayed on the screen.



*1 : Inch Area :Over Size paper selection

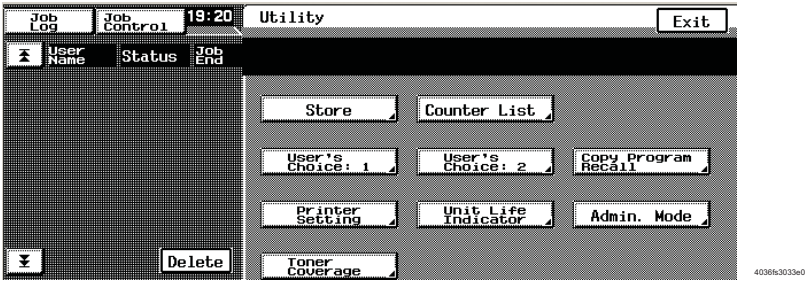
Administrator Mode 2/2



3.2 Utility Mode function setting procedure

3.2.1 Procedure

1. Press the Utility key.
2. The Utility mode screen will appear.



3.2.2 Exiting

- Touch the “Fin. Time” key.

3.2.3 Changing the setting value in Utility Mode functions

- Use the Up/Down key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

3.3 Settings in the store

3.3.1 Reset Mode

Functions	• To register the copy mode functions or scanner mode functions ✻ The copier is initialized at the following timings: • The Power Switch is turned ON. • Panel is reset. • An Interrupt mode is canceled. • Auto panel reset • The access # entry screen for Volume Track is changed • Application is changed
Use	• To match the copying functions set up upon resetting to user's need.
Setting/Procedure	"Current Mode" • The copy mode or scanner mode functions set arbitrarily on the panel are registered. "Factory Default" • The factory-set copy mode or scanner mode functions are registered.

3.3.2 Mode Store

Functions	• To register the copy mode functions being currently set as a job program or check or delete a job program that has previously been registered.
Use	• To save the copying settings the user wants • To make copies using previously stored settings by calling up a job program previously stored
Setting/Procedure	• Up to ten different job programs can be registered. • "Copy Program Recall" as a Utility function is used to call up a program.

3.4 Counter List

Functions	• To check the count of each counter or print a list of counters.
Use	• To check the total number of copies made and the number of printed pages produced in color and B/W, thereby identifying machine usage
Setting/Procedure	• To print the list, load Tray1 with A4 lengthwise or Letter lengthwise paper. • The machine rejects the print cycle if Tray1 is loaded with paper of any other size.

3.5 Controller Detail

Functions	• To set the external controller • This function is not available if there is no external controller connected to the machine.
Use	• To change the setting of the external controller
Setting/Procedure	• For details, see the manual for the external controller (option).

3.6 User's Choice: 1

3.6.1 1/2

A. Key Click Sound

Functions	• To select whether to enable or disable the click sound that sounds each time a key on the control panel is pressed.
Use	• To disable the key click sound
Setting/Procedure	• The default setting is ON. **ON** OFF

3.6.2 2/2

A. Power Save

Functions	• To set the time it takes the machine to enter the Power Save mode after a copy cycle has been completed or the last key operated. • Power Save: Turns OFF the LED, LCD, etc. to reduce power consumption
Use	• To change the time it takes the machine to enter the Power Save mode
Setting/Procedure	• Use the 10-Key Pad to enter the time (10 to 240 min.). • The default setting is 15 min. **15 min** (10 to 240)

Transferring to Power Save when job is in Held/Locked Jobs queue

Functions	• To select whether to transfer to Power Save when a job is set in Held/Locked Job queue Held Job: Job to be printed only when "Held" is canceled Locked Job: Job to be printed only when a valid password is entered
Use	• Use to cancel Power Save for a held or locked job
Setting/Procedure	• The default setting is Permit. **Permit** Prohibit

B. Sleep

Functions	• To set the time it takes the machine to enter the Sleep mode after a copy cycle has been completed or the last key operated • All power lines but the control 5-V one are shut down. • The option of "No" becomes available only when "Yes" is selected for "Disable Sleep Mode" of "Admin. Set" under Admin. Mode.
Use	• To change the time it takes the machine to enter the Sleep mode
Setting/Procedure	• Use the 10-Key Pad to enter the time (15 to 240 min.). • The default setting is 15 min. **30 min** (10 to 240)

Transferring to Power Save when job is in Held/Locked Jobs queue

Functions	• To select whether to transfer to Sleep when a job is set in Held/Locked Job queue
Use	• Use to cancel Sleep for a held or locked job
Setting/Procedure	• The default setting is Permit. **Permit** Prohibit

C. Account Change Auto Reset

Functions	• To select whether to reset the copying mode functions to the default ones when the Key Counter is unplugged, a magnetic card is pulled out, or the access # is entered for Volume Track.
Use	• To select not to reset to the default settings even when the accounts are changed through the use of a data management device
Setting/Procedure	The default setting is Yes. **Yes** No

3.7 User's Choice: 2

3.7.1 1/3

A. Language Select

Functions	• To select the language of the LCD display messages. • The counter outputs will be produced in the language selected.
Use	• To change the language displayed on the control panel to the desired one
Setting/Procedure	• The language options depend on the marketing area selected in "Marketing Area" available from "System Input" under Tech. Rep. Mode.

B. 2in1, 4in1, Booklet Copy Zoom

Functions	• To select, when 2in1, 4in1, or Booklet is selected, whether or not to automatically call up the zoom ratio optimum for the mode.
Use	• To allow the user to set the zoom ratio him/herself when 2in1, 4in1, or Booklet is selected
Setting/Procedure	• The default setting is Preset (call up). **Preset** No Preset

C. ACS Judgement Level Adjustment

Functions	• To set the criterion level to discriminate between a colored original and a black-and-white original in the Auto Color (ACS) mode.
Use	• To change the criterion level, with which an image containing partly colored areas is taken as a black-and-white original
Setting/Procedure	• Five levels are available to choose from and the default setting is 3. Near Black 1 2 **3** 4 5 Near Full Color

D. Intelligent Sorting

Functions	• To select whether to enable or disable the function that automatically switches between Sort and Non-Sort according to the number of originals and the number of copy sets to be made.
Use	• To select not to use the automatic sorting function when a document of two or more pages is loaded in the ADF
Setting/Procedure	The default setting is Yes. **Yes** No

E. Criss Cross

Functions	• To select whether to enable or disable the crisscross sorting function that stacks sorted copy sets in a crisscross manner, i.e., one set stacked lengthwise on top of another set stacked crosswise. ✻ Crisscross sorting is disabled when a Finisher is mounted on the machine.
Use	• To disable crisscross sorting for paper of the same size
Setting/Procedure	The default setting is Yes. **Yes** No

3.7.2 2/3

A. Paper Type Select

Functions	• To set the paper type for Tray2 through Tray4. Special paper: Type of paper that the user does not want to be automatically selected (paper with company logo)
Use	• To prevent a special type of paper, including that for use for single-sided only, from being inadvertently used when such a type of paper is loaded in the trays
Setting/Procedure	• The default setting is Standard (plain paper). Standard, High Quality Paper, Single Sided Only, Specialty

B. Auto-select paper for small originals

Functions	• To select whether or not to enable copying when an original, whose size falls outside the detectable range, is loaded in the Auto Paper mode and to select the paper source to be used.
Use	• To use a document that is not good for original size detection (e.g. business cards) • If “ON” is selected, a copy cycle can be initiated even with no originals loaded.
Setting/Procedure	• The default setting is OFF (disable copying). **OFF** ON • The default setting for the paper source is Tray1.

C. 4in1 Copy Order

Functions	• To select the layout of copy images in the 4in1 mode.
Use	• To change the layout of copy images in the 4in1 mode
Setting/Procedure	• The default setting is as follows: default setting →

D. Centering

Functions	• To select whether to center the image with respect to the paper.
Use	• To select not to allow the image to center in the paper when the paper is larger than the original • Use when the size of the original is smaller than that of the paper selected for use.
Setting/Procedure	The default setting is Yes. **Yes** No

3.7.3 3/3

A. Priority Output tray

Functions	• Set the priority output tray for each of the copier print, PC print, and the Internet Fax print. ✻ When the FS-501 is mounted.
Use	• To change the output tray according to the application
Setting/Procedure	• The default settings are as follows (as set with the corresponding number shown on the display). Copy : **2** (Elevator Tray) Print (PC print) : **2** (Elevator Tray) Internet : **2** (Elevator Tray) ✻ When the JS-601 is mounted : Internet default settings is 3

B. Priority Device

Functions	• To set the print timing for the PC print jobs received.
Use	• To have one page each printed for a PC print job
Setting/Procedure	• The default setting is Printer. Copier : After the reception of all data **Printer** : After the reception of data for each page

3.8 Copy program Recall

Functions	• To call up a program registered through Job Memory Input.
Use	• To call up a job program that the user has previously programmed and registered
Setting/Procedure	• Select the program number. • If the machine is not equipped with capabilities (e.g., stapling) that were provided when the program was registered, calling up that particular program is disabled.

3.9 Printer Setting

3.9.1 Default setting

A. Basic

(1) Default Tray

Functions	• To set the default Tray used by the printer
Use	• To change the default value of Tray for the printer
Setting/Procedure	• The default setting is Auto Paper Select. ✻ Displayed options are only the paper sources connected to the machine.

(2) Paper Size

Functions	• To set the default paper size used by the printer
Use	• To change the default value of paper size for the printer
Setting/Procedure	✻ Default setting depend on the marketing area setting. Metric Area : A4 Inch Area : Letter

(3) Output

Functions	• To set the default values of printing method and number of copy sets for the printer
Use	• To change the default values of printing method and number of copy sets for the printer
Setting/Procedure	Printing Method • The default setting is Simplex. **Simplex** Duplex
	Binding Method • Displayed when Duplex is selected • The default setting is left-edge binding. (left-edge binding) (top-edge binding)
	No. of Sets • The default setting is 1. **1** (1 to 999)

(4) Orientation

Functions	• To set the default orientation of the image used for the printer
Use	• To change the default value of the orientation of the image used for the printer
Setting/Procedure	• The default setting is Portrait. **Portrait** Landscape

(5) Lines per page

Functions	• To set the number of lines per page for printing of text using the printer
Use	• To change the number of lines printed per page by the printer
Setting/Procedure	✻ Default setting depend on the marketing area setting. Metric Area : 64 lines Inch Area :60 lines (5 to 128 lines)

B. Font

(1) Typeface

Functions	• To set the default font type used in the printer
Use	• To change the default value of the font used in the printer
Setting/Procedure	✻ Default setting depend on the marketing area setting. ✻ Displayed are only those fonts installed.

(2) Symbol Set

Functions	• To set the default symbol set of the font used in the printer
Use	• To change the default value of the symbol set of the font used in the printer
Setting/Procedure	✻ Default setting depend on the marketing area setting. ✻ Some symbol sets cannot be selected depending on the font face selected for use.

(3) Font Size

Functions	• To set the default font size used in the printer
Use	• To change the default value of the font size used in the printer
Setting/Procedure	✻ Default setting depend on the marketing area setting. Scalable Font 12 point (4.00 to 999.75 point) Bitmap Font 10 pitch (0.44 to 99.00 pitch)

3.9.2 Report Types

Functions	• To set the output of the various types of reports as they relate to the printer
Use	• To select the types of reports to be output as they relate to the printer
Setting/Procedure	• These are the types of reports that can be output: Configuration: Report covering the configuration of the system including options Demo Page: Format report for demonstration PCL FontList: List of fonts of PCL emulation (to be output only when they are installed) PS FontList: List of fonts of PostScript emulation (to be output only when they are installed)

3.10 Unit Life Indication

Functions	• To check each unit for life.
Use	• To check each unit for conditions before it reaches the end of its service life
Setting/Procedure	• The life indicator of each unit is displayed. • Pressing the Print key produces a printout of a list of counter counts. • To print the list, load Tray1 with A4 or Letter lengthwise or Letter lengthwise paper.

3.11 Settings in the Admin. Mode

- Entering the 8-digit administrator number set in the Admin. Mode will allow you to enter the Admin. Mode (default value: 00000000).

3.11.1 Admin. Set.

A. 1/4

(1) Top Erase

Functions	• To set the leading edge erase amount of the paper.
Use	• To change the width of the area not printed along the leading edge of the paper
Setting/Procedure	• The default setting is 5 mm. **5 mm** 7 mm

(2) Disable Sleep Mode

Functions	• To display the option of “No” for the Sleep setting screen available from User's Choice 1.
Use	• To display the option of “No” for the Sleep setting
Setting/Procedure	• The default setting is No. Yes **No**

(3) A3 Wide Paper Size (Over Size Paper selection)

Functions	• Select paper size of A3 Wide. (Over Size Paper)
Use	• To change the full bleed paper size
Setting/Procedure	• The default setting is 305 × 457 mm or 12 × 18. Metric areas: 311 × 457 mm **305 × 457 mm** Inch areas : 12-1/4 × 18 **12 × 18**

(4) Locked Jobs Auto Delete Time

Functions	• To set the period of time, at the end of which locked jobs are automatically deleted Locked job: Job to be printed only when a valid password is entered
Use	• To change the period of time, at the end of which locked jobs are automatically deleted
Setting/Procedure	• Use the 10-Key Pad to enter the time. • The default setting is No. **No** (1 to 99 hour)

(5) Skip Volume Track (E. K. C.) Error

Functions	• This function is used to specify whether or not other jobs can skip a job that was stopped because the maximum number of copies has been reached for the account.
Use	• Used to specify whether or not other jobs can skip a job that was stopped
Setting/Procedure	• The default setting is No. Yes **No**

B. 2/4

(1) Unauthorized Access Lock

Functions	• To select whether to enable or disable the unauthorized access lock function • If a wrong authentication number (Administrator Code or access #) is entered three times cumulatively (three consecutive times for the access # for Volume Track and print lock unlocking) with this function enabled, the machine determines that it is an illegal access, nullifying the entry. • Perform the following steps to cancel the nullified state of entry of the authentication number. Nullified state of the Administrator Code: Turn OFF and ON the Power Switch. Nullified state of the number other than the Administrator Code: Turn OFF and ON the Power Switch or select Access Lock Release as set by the administrator.
Use	• To enable the unauthorized access lock function when an illegal access is attempted
Setting/Procedure	• The default setting is Disable. Enable **Disable**

(2) Access Lock Release

Functions	• To cancel the Unauthorized Access Lock state
Use	• To cancel the unauthorized access lock state when Unauthorized Access Lock has been activated
Setting/Procedure	• Lock Job: Cancel the access lock for locked jobs. • Volume Track (E. K. C.): Cancel the access lock for Volume Track. • HDD: Cancel the access lock for HDD.

(3) User Authentication

Functions	• To select whether or not to use user authentication when the Scanner mode or Box mode is being used • If user authentication is to be used, the type of authentication is selected: Active Directory or NTLM
Use	• To use user authentication when the Scanner mode or Box mode is being used
Setting/Procedure	• The default setting is No. **No** Active Directory NTLM If authentication was set to be performed with Active Directory or NTLM, input the domain name.

(4) LDAP Search

Functions	• To select whether or not to use the LDAP Search function LDAP Search: Performs search with the LDAP server based on the keyword entered
Use	• To prohibit the LDAP Search in the Scanner mode or Box mode.
Setting/Procedure	• The default setting is Prohibit. Permit **Prohibit**

(5) Box Function

Functions	• To select whether or not to use the Box function Box function: Stores image data in the hard disk box for later use
Use	• To prohibit the use of the Box function
Setting/Procedure	• The default setting is Prohibit. Permit **Prohibit**

C. 3/4

(1) Date & Time Setting

Functions	• To set the time-of-day, date, and time zone and start the clock.
Use	• To change the settings for time-of-day and date • Use as part of setup procedures.
Setting/Procedure	• The default setting is 00:00, January 1, 2000. • For the time zone, set the time difference from the Greenwich Mean Time. • The time zone can be set between -1200 and +1200 (in 30 minute intervals).

(2) Reprint

Functions	• To select whether to permit recalling and copying of image data which has previously been subjected to a copy cycle.
Use	• To prohibit Reprint
Setting/Procedure	• The default setting is Yes. **Yes** No

(3) HDD Lock

Functions	• To select whether or not to use the HDD Lock function and, if selected to use, set the password • The contents of the hard disk mounted in the machine are locked using the password. ✻ If HDD Lock has previously been set, this function is used to change the password or unlock HDD Lock.
Use	• To use the HDD Lock function
Setting/Procedure	• The default setting is No. Yes **No** ✻ By selecting the “HDD Lock” function when the hard disk is already locked, the password can be changed or the lock setting for the hard disk can be removed.

(4) Administrator Code Change

Functions	• To change the Administrator Code
Use	• To change the Administrator Code required for entering the Admin. Mode
Setting/Procedure	• Use the 10-Key Pad to enter the new Administrator Code. 8 digits (0 to 9)

(5) PSL Administrator Code Change

Functions	• To change the PSL Administrator Code • This function becomes available depending on the option installation.
Use	• To change the PSL Administrator Code required for entering the Admin. Mode
Setting/Procedure	• Use the 10-Key Pad to enter the new Administrator Code. 4 digits (0 to 9)

D. 4/4

(1) Panel Reset Timer

Functions	• To set the time it takes the Auto Panel Reset function to be activated after a copy cycle has been completed or the last key operated. • The default settings are established when Auto Panel Reset is activated.
Use	• To select not to enable Auto Panel Reset or change the time it takes the Auto Panel Reset function to be activated
Setting/Procedure	• Use the 10-Key Pad to enter the Auto Panel Reset time. (1 to 9 min.) • The default setting is 1 min. **1 min** (1 to 9) No

(2) Add Prefix/Suffix

Functions	• This function is used to specify whether or not a prefix/suffix is added when recalling or entering an address in Scan mode or Box mode.
Use	• To add Prefix/Suffix to the address in the Scan or Box mode
Setting/Procedure	• The default setting is No. Yes **No**

(3) Prefix/Suffix Registration

Functions	• To register or change Prefix or Suffix • Up to eight different types of Prefix or Suffix can be registered. Prefix: Characters added to the header portion of the document (header) Suffix: Characters added to the footer portion of the document (footer)
Use	• To register or change the text displayed as Prefix or Suffix
Setting/Procedure	• Up to 20 characters can be used for Prefix. • Up to 64 characters can be used for Suffix.

⚠1 (4) PSWC Setting

Functions	• To select whether to enable or disable the Page Scope Web Connection.
Use	• To disable using Page Scope Web Connection.
Setting/Procedure	• The default setting is Permit **Permit** Prohibit

3.12 Settings in Volume Track (E. K. C.)

3.12.1 Volume Track Mode (E. K. C.)

Functions	• To select whether to enable or disable the Volume Track function.
Use	• To use the Volume Track function
Setting/Procedure	• The default setting is No. Yes **No** • If the option is changed from “Yes” to “No” the Volume Track data is initialized.

Scanning from PC

Functions	• To select whether to enable or disable Scanning from PC for Volume Track Scanning from PC: To scan from the TWAIN driver of a PC on the network
Use	• To disable Scanning from PC during Volume Track
Setting/Procedure	• The default setting is Permit. **Permit** Prohibit

3.12.2 Volume Track Setting (E. K. C.)

Functions	• To set the Volume Track operations for each account
Use	• To change the settings of each account
Setting/Procedure	• Volume Number Select the account (001 to 998), for which the settings are to be changed. • Access# Set the access # (00000001 to 99999998) for authentication for entering each account. • Allowances Set the output of each of color, black, and scan. • Upper Limit Copy + Print Set the upper limit of printed pages to be produced in total or individually. (color and black)

3.12.3 Volume Track Data (E. K. C.)

Functions	• To browse, clear, or otherwise operate the counter data of each account. • Counters are the total, copy, and printer counter. • The counter counts are classified into the paper size, print type, etc. • The counters for the accounts can be cleared or initialize the Volume Track Data (E.K.C.) counters for all accounts,
Use	• To check, clear, or print the counter values of each account
Setting/Procedure	• The default setting is 0. **0** (0 to 999999) To print the list, load Tray1 with A3 or 11 x 17 paper.

3.13 Call Service Cent.

Functions	• To transmit various types of data representing the machine conditions to the Center when the Remote Diagnosis System is mounted.
Use	• To transmit machine data to the Center
Setting/Procedure	• Press the Call Service Cent. key to execute the user transmission.

3.14 Settings in Printer Setting

3.14.1 Common Setting

A. PDL Setting

Functions	• To set the default page description language (PDL) for the printer controller ✻ Only the PDLs mounted in the machine can be selected.
Use	• To change the PDL
Setting/Procedure	• Options displayed represent the PDLs mounted in the machine. Typical options: Auto Set PCL PostScript GDI

B. I/O Timeout

Functions	• To set the I/O timeout period for communications
Use	• To extend the timeout period if timeout occurs frequently depending on the network conditions
Setting/Procedure	• Use the 10-Key Pad to enter the Auto Panel Reset time. (10 to 300 sec.) • The default setting is 15 sec. **15 sec** (10 to 300)

C. Parallel Interface

Functions	• To set the two-way communication system for the parallel interface
Use	• To change the communications method of the parallel interface
Setting/Procedure	• The default setting is ECP. Compatible Nibble **ECP**

D. Screen Pattern Setting

Functions	• To set the screen pattern for PC print
Use	• To change the screen pattern to be output in PC print
Setting/Procedure	• The default setting is Gradation. **Gradation** Resolution

3.14.2 PCL Setting

A. Overwrite A4 ←→ Letter

Functions	• To permit output of A4 instead of Letter, or vice versa
Use	• To produce an output of the same size from a document containing pages of both A4 and Letter
Setting/Procedure	• The default setting is No. Yes **No**

3.15 Settings in Scan setting

3.15.1 Device Name

Functions	• To register the device name to be added to the transmission file name
Use	• To add the device name to the transmission file name
Setting/Procedure	• The default setting is No. • Up to 36 characters (alphanumeric characters and symbols) can be used.

3.15.2 Color/Grayscale Compression

Functions	• To set the compression level (image quality) for scanning of the image in JPEG file format
Use	• To change the compression level
Setting/Procedure	• The default setting is Standard. High Quality **Standard** Economy

3.15.3 Pri. Comp. Method for Monochrome

Functions	• To set the compression method used for scanning in the monochrome mode of the image of the color mode for each file type
Use	• To change the compression method
Setting/Procedure	PDF • The default setting is MH. **MH** MMR TIFF • The default setting is MH. **MH** MMR

3.16 Settings in Network Setting

3.16.1 Common Setting

A. TCP/IP

(1) IP Address

Functions	• To set the IP address of the device used in the network
Use	• To enter the IP address of the device
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) Subnet Mask

Functions	• To set the subnet mask of the device used in the network
Use	• To enter the subnet mask of the device
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(3) Gateway Address

Functions	• To set the gateway address of the device used in the network
Use	• To enter the gateway address of the device
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(4) DHCP

Functions	• To set DHCP for the network
Use	• To use DHCP
Setting/Procedure	• The default setting is Disable **Disable** Enable

B. DNS

(1) DNS Server

Functions	• To set the DNS server
Use	• To enter the DNS server
Setting/Procedure	• Three addresses of IP address 1, IP address 2, and IP address 3 can be registered. • IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

C. NetWare

(1) Frame Type

Functions	• To set the frame type of Ethernet when the NetWare is used
Use	• To change the frame type
Setting/Procedure	• The default setting is Auto Detect **Auto Detect** II 802.3 802.2 SNAP

3.16.2 E-mail/Internet

A. Receive

(1) POP3 Server

Functions	• To set the address of the POP3 Server used in reception of email
Use	• To set the address of the POP3 Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) POP3 Login Name

Functions	• To set the logon name used to log on to the POP3 server to receive email
Use	• To set the logon name for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 63 characters (alphanumeric characters and symbols) can be used.

(3) POP3 Password

Functions	• To set the password used to log on to the POP3 server to receive email
Use	• To set the logon password for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 15 characters (alphanumeric characters and symbols) can be used.

(4) Mail Check

Functions	• To select whether to enable or disable automatic incoming mail check with the POP server
Use	• To select to disable automatic incoming mail check
Setting/Procedure	• The default setting is Yes. **Yes** No

(5) Initialize

Functions	• To select whether or not to initialize the setting data for reception and transmission
Use	• To initialize the setting data for reception and transmission
Setting/Procedure	• The default setting is No. Yes **No** • Pressing the Start key with “Yes” selected will let machine start the initialization procedure.

B. Send

(1) SMTP Server

Functions	• To set the address of the SMTP Server used in reception of email
Use	• To set the address of the SMTP Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) Timeout of SMTP Server

Functions	• To set the timeout period for connection to the SMTP server used for email transmission
Use	• To change the timeout period for connection to the SMTP server
Setting/Procedure	• The default setting is 30 sec. **30 sec.** (30 to 300)

(3) Mail Separation

Functions	• To select whether to enable or disable mail separation when the size of the email to be transmitted exceeds the upper limit value Upper limit value: Default value 500 kB (variable range: 100 to 3,000 kB) The maximum email size can be set or changed from the setting tool (PSL) on the PC.
Use	• To send data of a large size
Setting/Procedure	• The default setting is No. Yes **No**

C. Print

(1) Text Print

Functions	• To select whether or not to print the email message in addition to the attached file during reception of Email/Internet Fax
Use	• To print also the email message during printing of Email/Internet Fax received
Setting/Procedure	• The default setting is No. Yes **No**

(2) Internet Fax Print Size

Functions	• To set the zoom ratio for printing of received Internet Fax
Use	• To change the zoom ratio for printing of received Internet Fax
Setting/Procedure	• The default setting is Minimal. **Minimal** Full Size A4/Letter

3.16.3 FTP Server

A. Server 1

(1) IP Address

Functions	• To set the address of the FTP Server used in Scan to Server
Use	• To set the address of the FTP Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) Login Name

Functions	• To set the logon name used to log on to the FTP Server to Scan to Server
Use	• To set the logon name for the FTP Server
Setting/Procedure	• Up to 32 characters (alphanumeric characters and symbols) can be used.

(3) PIN

Functions	• To set the password used to log on to the FTP Server to Scan to Server
Use	• To set the logon password for the FTP Server
Setting/Procedure	• Up to 64 characters (alphanumeric characters and symbols) can be used.

(4) Directory

Functions	• To the directory of the file server for transfer of files through Scan to Server
Use	• To set the directory of the file server
Setting/Procedure	• Up to 128 characters (alphanumeric characters and symbols) can be used.

B. Server 2

• Same settings as those of Server 1

C. Server 3

• Same settings as those of Server 1

D. Server 4

• Same settings as those of Server 1

E. Server 5

• Same settings as those of Server 1

3.16.4 Twain

A. Operation Lock Time for TWAIN

Functions	• To set the period of time before the machine lock, which has been invoked to capture image to PC through TWAIN scan, is forcedly unlocked when no instructions are given by PC
Use	• To change the period of time, during which the machine has been connected from the image capturing application from the PC and scan-locked, and is then unlocked from this state
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (30 to 300)

3.16.5 LDAP

A. Network setting

(1) LDAP Server Address

Functions	• To set the IP Address or DNS name of the LDAP Server
Use	• To set the IP Address or DNS name of the LDAP Server
Setting/Procedure	IP Address • IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255] DNS name • Up to 255 characters (alphanumeric characters and symbols) can be used.

(2) SSL/TLS

Functions	• To select whether or not to use SSL/TLS in communications with the LDAP server SSL/TLS: Protocol that ensures proper data exchange with the server; encryption, etc.
Use	• To use SSL/TLS
Setting/Procedure	• The default setting is No. Yes **No**

(3) Port Number

Functions	• To set the port number to be used in communications with the LDAP server
Use	• To set the port number
Setting/Procedure	• The default setting is 389. **389** (0 to 65535) • The default value for using SSL/TLS is “636.”

(4) Search Base

Functions	• To enter the search start position for LDAP search
Use	• To change the search start position for LDAP search
Setting/Procedure	• Up to 255 characters (alphanumeric characters and symbols) can be set for the search.

B. Authentication

(1) Authentication System

Functions	• To set the authentication system for LDAP server
Use	• To change the authentication system for LDAP server
Setting/Procedure	• The default setting is Anonymous. **Anonymous** Simple Digest MD5/CRAM-MD5 GSS-SPNEGO ✻ To set the Domain name of the GSS-SPNEGO. (Up to 128 characters)

(2) Login Name

Functions	• To set the logon name for the LDAP Server
Use	• Use to set the logon name for the LDAP Server
Setting/Procedure	• Up to 255 characters (alphanumeric characters and symbols) can be used.

(3) Password

Functions	• To set the logon password for the LDAP Server
Use	• Use to set the logon password for the LDAP Server
Setting/Procedure	• Up to 128 characters (alphanumeric characters and symbols) can be used.

C. Other

(1) Max. Number of Searches

Functions	• To set the maximum number of searches for LDAP search
Use	• To change the maximum number of searches for LDAP search
Setting/Procedure	• The default setting is 100 Num Case. **100 Num Case** (5 to 120 Num Case)

(2) Connection Timeout

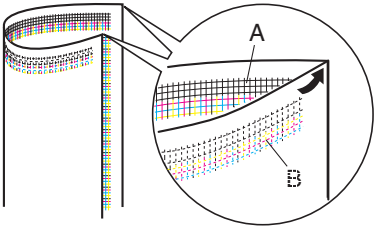
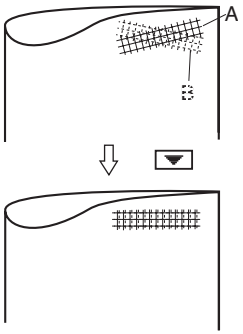
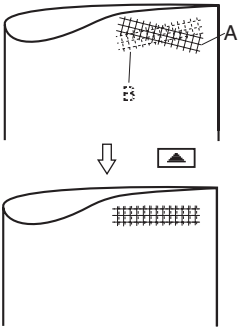
Functions	• To set the timeout period for connection to the LDAP server
Use	• To change the timeout period for connection to the LDAP server
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (5 to 300 sec.)

3.17 Settings in Expert User Mode

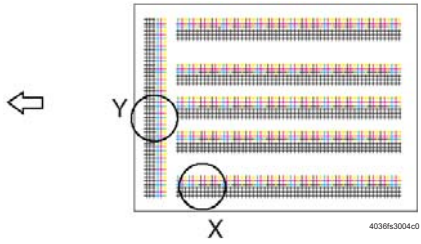
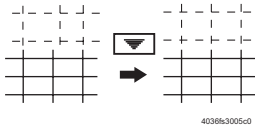
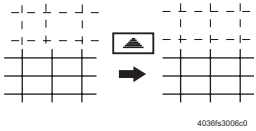
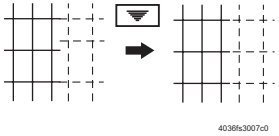
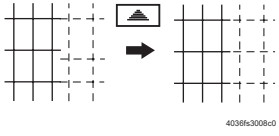
3.17.1 Thick Paper and OHP Film Image Density

Functions	• To adjust the density of the printed image for each color with thick paper and OHP transparencies
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	• The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level.
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Adjustment Procedure	*1.* Touch Expert User Mode → Thick Paper and OHP Film Image Density. *2.* Touch the Lighter or Darker key for the desired color to correct the image density.

3.17.2 Color Shift Correction (Bk)

Functions	• To correct black color shift, if it occurs • Make Color Shift Corrections (cyan, magenta, and yellow) after this adjustment has been made.
Use	• To correct black color shift, if it occurs
Adjustment Range	**0** (-10 to +10 dot)
Adjustment Instructions	If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value.
Adjustment Procedure	*1.* Touch Expert User Mode → Color Shift Correction (Bk). *2.* Load Tray1 with A3 or A4R plain paper. *3.* Press the Start key. *4.* Fold the printed test pattern in half lengthwise to check for deviation (the image on the inside). *5.* Check deviation between black lines A and B. *6.* Change the setting value using the Up/Down key as necessary. *7.* Produce another test pattern and check for deviation. Check Procedure Check point A, B  4036fs3001c0 If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value. Direction of C  4036fs3002c0 Direction of D  4036fs3003c0

3.17.3 Color Shift Correction (C, M, Y)

Functions	• To adjust color shift if there is any color shift as found through comparison of the copy with the original • Before making this adjustment, be sure to perform Color Shift Correction (Bk).
Use	• To correct any color shift
Adjustment Range	**0** (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Adjustment Procedure	*1.* Touch Expert User Mode → Color Shift Correction (cyan). *2.* Load Tray1 with A3 or A4R plain paper. *3.* Press the Start key. *4.* Check deviation of the cyan line relative to the black lines at positions X and Y on the printed test pattern. *5.* Change the setting value using the Up/Down key as necessary. Changing the setting value moves only the selected color (cyan). *6.* Produce another test pattern and check for deviation. *7.* When the color shift of cyan has been adjusted, make the adjustment for magenta and yellow. Check Procedure Check point X,Y  Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  Direction of D  Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  Direction of D 

3.17.4 Black Image Density Correction

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), **Std**, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Adjustment Procedure	*1.* Touch Expert User Mode → Black Image Density Correction. *2.* Touch the Lighter or Darker key as necessary to correct the image density.

3.17.5 Stabilizer

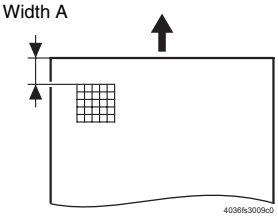
A. Stabilize

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When PRT Max Density, PRT Highlight, and Background Voltage Margin of Tech. Rep. mode are changed.
Adjustment Procedure	*1.* Touch Expert User Mode → Stabilizer. *2.* Touch Stabilize. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

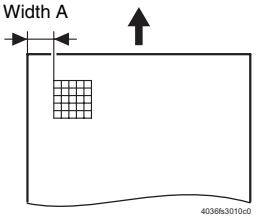
B. Reset and Stabilize

Functions	• The image stabilization control historical data is cleared and an image stabilization sequence is carried out. • Cleared data: PRT Max Density, PRT Highlight, Background Voltage Margin and Gradation Adjustment.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Stabilizer has been executed.
Adjustment Procedure	*1.* Touch Expert User Mode → Stabilizer. *2.* Touch Reset and Stabilize. *3.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *4.* Stabilizer is completed when the Start key turns green.

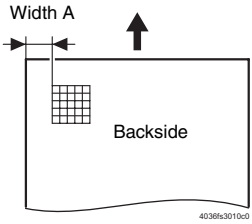
3.17.6 PRT Area (Top Margin)

Functions	• To vary the print start position in the FD direction for each of different paper types in Tray1.
Use	• The LPH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the FD direction. • A faint image occurs on the leading edge of the image. • A misfeed occurs at the 2nd image transfer section.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications: 5.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Select according to the paper used on the Paper Type Setting Dial. *2.* Touch “Expert User Mode” → “PRT Area (Top Margin).” *3.* Press the Start key to let the machine produce a test pattern. *4.* Check the dimension of width A on the test pattern. *5.* If width A falls outside the specified range, change the setting using the Up/Down key. *6.* Press the Start key to let the machine produce a test pattern. *7.* Check the dimension of width A on the test pattern. *8.* If width A is outside the specified range, change the setting again and make a check again. *9.* If width A falls within the specified range, touch “Enter.” *10.*Following the same procedure, adjust for thickpaper, OHP, and envelopes.

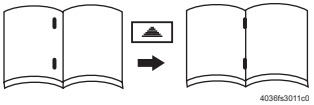
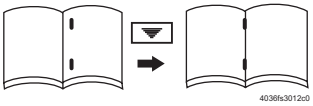
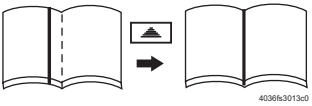
3.17.7 PRT Area (Left Margin)

Functions	• To vary the print start position in the CD direction for each paper source.
Use	• The LPH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the CD direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications : 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Touch “Expert User Mode” → “PRT Area (Left Margin).” *2.* Press the Start key to let the machine produce a test pattern. *3.* Check the dimension of width A on the test pattern. *4.* If width A falls outside the specified range, change the setting using the Up/Down key. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern. *7.* If width A is outside the specified range, change the setting again and make a check again. *8.* If width A falls within the specified range, touch “Enter.” *9.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

3.17.8 PRT Area (Dup. Left Margin)

Functions	• To vary the print start position in the CD direction for each paper source in the 2-Sided mode.
Use	• The Automatic Duplex Unit has been set up. • The image on the backside of the 2-sided copy deviates in the CD direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications : 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Touch “Expert User Mode” → “PRT Area (Dup. Left Margin).” *2.* Press the Start key to let the machine produce a test pattern. *3.* Check the dimension of width A on the test pattern. *4.* If width A falls outside the specified range, change the setting using the Up/Down key. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern on the backside of the copy. *7.* If width A is outside the specified range, change the setting again and make a check again. *8.* If width A falls within the specified range, touch “Enter.” *9.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

3.17.9 Center Staple Position

Functions	• To adjust the positions of center staple and folding for the Finisher.
Use	• Use when the center staple and folding positions deviate from the correct ones in the copies made using the Booklet function.
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments). • Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).
Adjustment Instructions	If deviated to the left, increase the setting value. If deviated to the right, decrease the setting value.
Adjustment Procedure	*1.* Use the Booklet function to make one sample booklet. *2.* Touch "Expert User Mode" → "Center Staple Position." *3.* Check the sample copy and make the necessary adjustment as detailed in the following. Adjusting the center staple position: *4.* If the staple positions deviate, use these steps to make the adjustment. If the staple positions deviate to the left side, increase the setting value. If the staple positions deviate to the right side, decrease the setting value. Deviated to left Deviated to right  4036fs3011c0  4036fs3012c0 Adjusting the folding position: *5.* If the folding position deviates, use these steps to make the adjustment. If the folding position deviates to the left side, increase the setting value. If the folding position deviates to the right side, decrease the setting value. Deviated to left Deviated to right  4036fs3013c0 4036fs3014c0 *6.* Quit the Utility mode. *7.* Using the Booklet function, make another sample booklet for confirmation. *8.* Check the sample copy and repeat the adjustment procedures until there are no deviations in the staple or folding position.

3.17.10 Delete All Data in Index

Functions	• Counts and clears data left after the one-touch key data is all cleared using Page Scope Web Connection when the IC-401 is being used.
Use	• When no data can be stored in the one-touch keys after “Delete All One-Touch Keys” is executed in the Administrator Mode of Page Scope Web Connection
Adjustment Procedure	*1.* Touch “Delete All Data in Index.” *2.* Check the display of the count of the data left and touch “Delete.”

3.18 Gradation Adjustment

Functions	• To make an automatic adjustment for an optimum gradation value based on the test pattern produced and the reading taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjustment screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image.
Adjustment Specification	Max : 0 ± 100 Highlight : 0 ± 60
Adjustment Procedure	*1.* Touch “Gradation Adjustment.” *2.* Press the Start key to let the machine produce a test pattern. *3.* Place the test pattern produced on the Original Glass. *4.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *5.* Press the Start key. (The machine will then start scanning the test pattern.) *6.* Touch “OK” and repeat steps from 2 through 6 twice (a total of three times). *7.* Touch “Gradation Adjustment” to display the Adj. Values and Conv. Values of each color (C, M, Y and Bk) for Max and Highlight. *8.* Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Power Switch and perform Gradation Adjustment once again. • If either Max or Highlight still remains outside the specified ranges perform PRT Max Density or PRT Highlight. • If a total of four sequences of Gradation Adjustment do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

3.19 Server Setting (KRDS) / Server Setting (RD)

- Either “Server Setting (KRDS)” or “Server Setting (RD)” is selected according to the set Remote Diagnosis System. Detailed settings are the same between the two.

3.19.1 POP3 Server

A. POP3 Server

Functions	• To set the POP3 server address used for the Remote Diagnosis System for the standard controller.
Use	• To set the address of the POP3 Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

B. POP3 Login Name

Functions	• To set the logon name for the POP3 server used for the Remote Diagnosis System for the standard controller.
Use	• To set the logon name for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 64 characters (alphanumeric characters and symbols) can be used.

C. POP3 Password

Functions	• To set the logon password for the POP3 server used for the Remote Diagnosis System for the standard controller.
Use	• To set the logon password for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 16 characters (alphanumeric characters and symbols) can be used.

D. POP3 Port Number

Functions	• To set the POP3 port number used for the Remote Diagnosis System for the standard controller.
Use	• To set the port number for the POP3 server
Setting/Procedure	• The default setting is 110. **110** (0 to 65535)

3.19.2 Receive

A. E-Mail Address

Functions	• To set the email address used for the Remote Diagnosis System for the standard controller
Use	• To set the email address
Setting/Procedure	• The default setting is No. • Up to 129 characters (alphanumeric characters and symbols) can be used.

B. Mail Check

Functions	• To set whether or not to use Mail Check and the time interval for the POP3 server used for the Remote Diagnosis System for the standard controller
Use	• To select not to use Mail Check • To change the time interval for Mail Check
Setting/Procedure	• The default setting is 15 min. **15 min.** (1 to 120 min., No)

C. Connection Timeout

Functions	• To set the timeout period for connection during reception
Use	• To change the timeout period for connection during reception
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (30 to 300 sec.)

3.19.3 Send

A. SMTP server

Functions	• To set the SMTP server address for transmission used for the Remote Diagnosis System for the standard controller
Use	• To set the address of the SMTP Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

B. SMTP Port Number

Functions	• To set the SMTP port number for transmission used for the Remote Diagnosis System for the standard controller
Use	• To set the Port Number of the SMTP Server
Setting/Procedure	• The default setting is 25. **25** (1 to 65535)

C. Timeout of SMTP Server

Functions	• To set the timeout period for transmission
Use	• To change the timeout period for connection during transmission
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (30 to 300 sec.)

3.19.4 Status

Functions	• To carry out a transmission/reception test using the Remote Diagnosis System for the standard controller
Use	• To carry out a transmission/reception test using the Remote Diagnosis System for the standard controller
Setting/Procedure	• Press the Start key to start transmission. • The progress and results of the test are displayed on the screen.

3.20 Toner Coverage

Functions	• Displays the cumulative average value of use rate of each color of toner per A4. ✻ The toner coverage values assume that the amount of toner used to produce an A4 solid image is 100% and that used to produce an A3 solid image is 200%.
Use	• To identify use status of each color of toner
Setting/Procedure	• Touch the “Toner Coverage” key to check the use rate.

4. TECH. REP. MODE

4.1 Tech. Rep. Mode function setting procedure

NOTE

- **Ensure appropriate security for Tech. Rep. mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

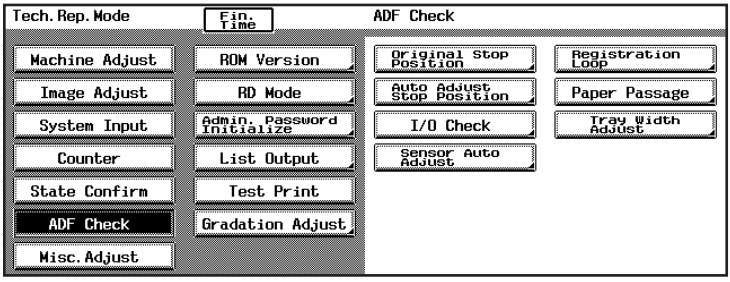
A. Procedure

1. Press the Utility key.
2. Touch "Counter List."
3. Press the following keys in this order.
   Stop → 0 → 0 → Stop → 0 → 1
4. Enter the 8-digit service code and touch "Enter." (The default value is "00000000.")

NOTES

- **The service code entered is displayed as "*."**
- **If a wrong service code is entered, touch "Enter" to go back to the Basic screen.**
- **When access is attempted a fourth time after a wrong service code has been entered three times, the "Enter" will not be displayed. In this case, the Power Switch must be turned OFF and ON.**
- **When the access to the Tech. Rep. mode is successfully made with the correct service code entered, the machine clears the count of illegal access to the Tech. Rep. mode.**

5. The Tech. Rep. Mode menu will appear.



NOTES

- **Be sure to change the service code from its default value.**
- **For the procedure to change the service code, see the Security Mode.**

B. Exiting

- Touch the "Fin. Time" key.

C. Changing the Setting Value in Tech. Rep. Mode Functions

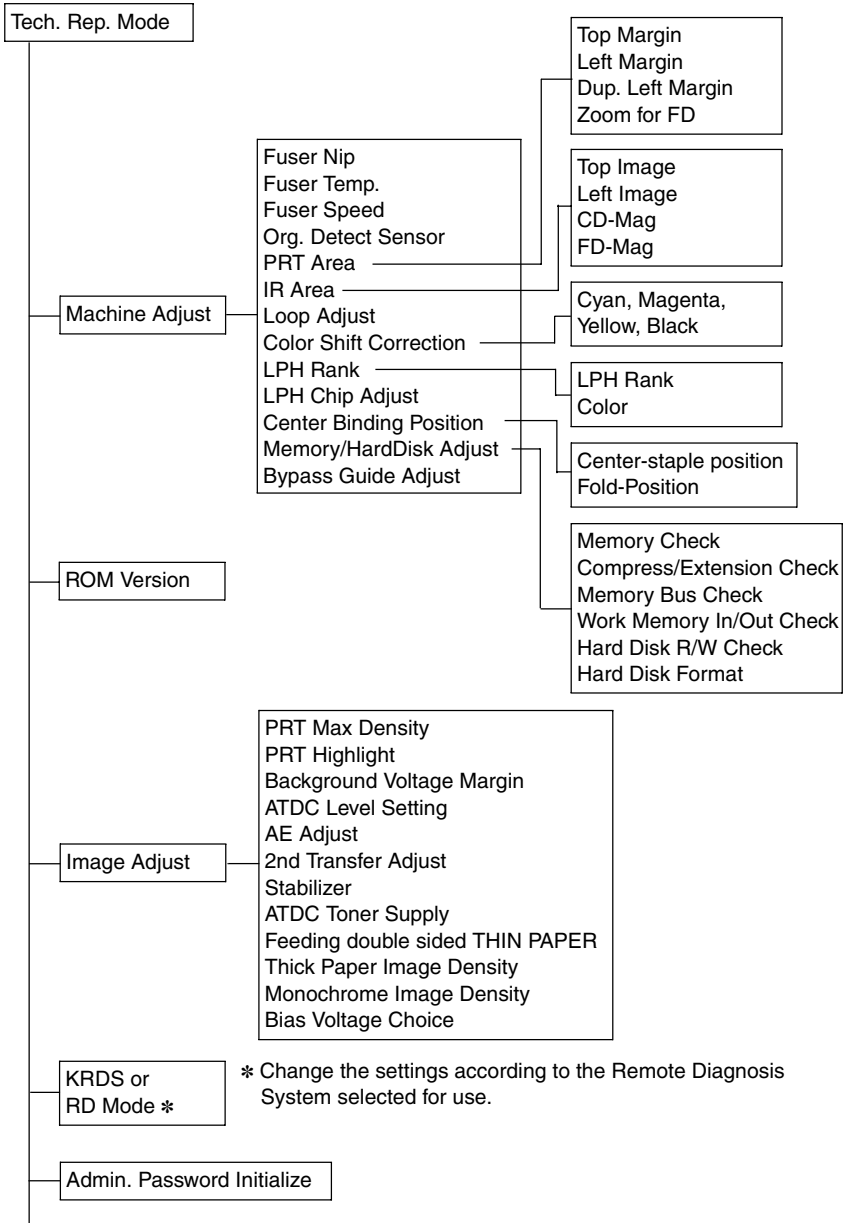
- Use the ID key to change the + sign to - sign, or vice versa.
- Use the Up/Down key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

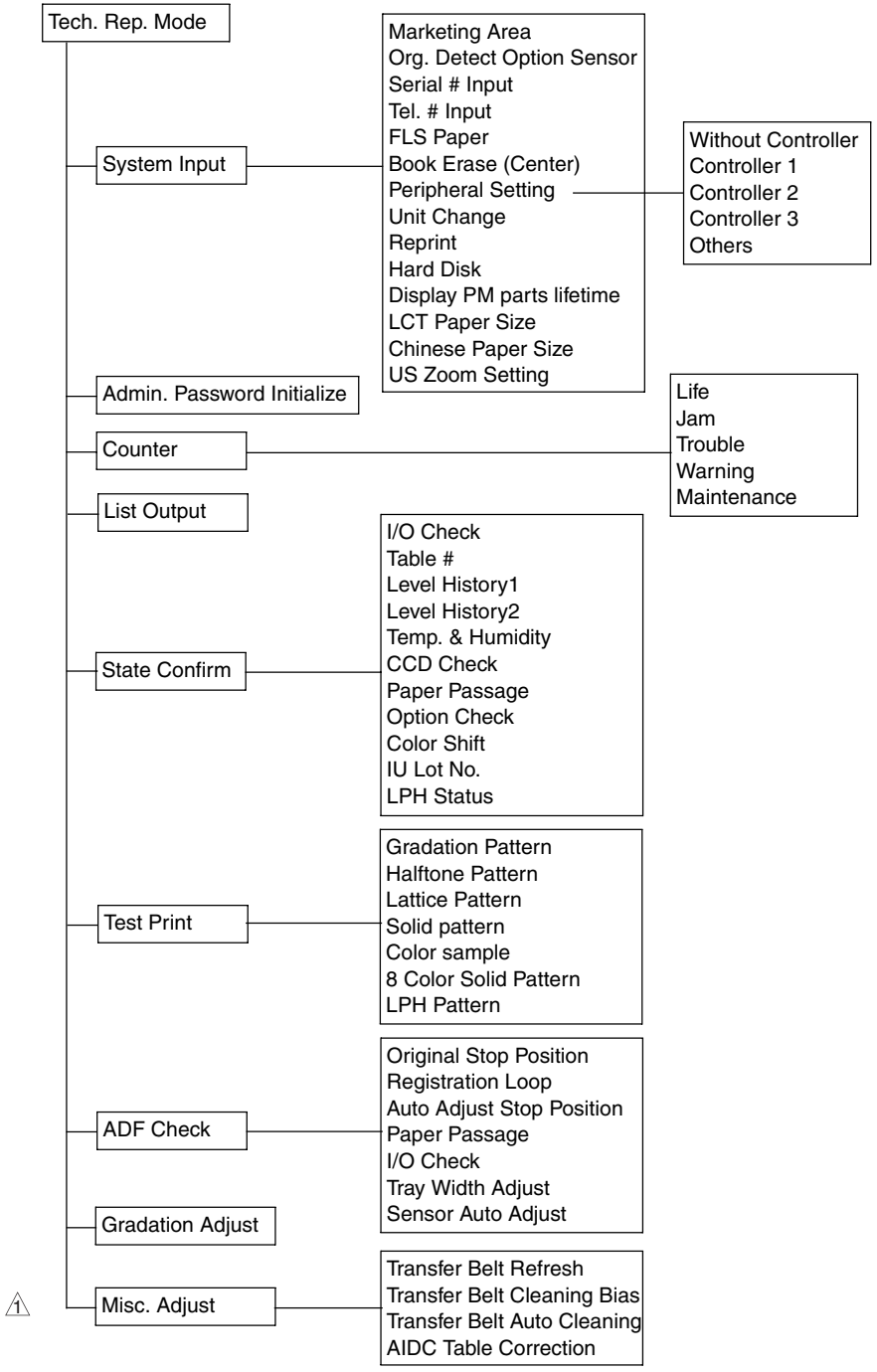
4.2 Touch Panel Adj.

Functions	• To adjust the position of the Touch Panel display
Use	• Make this adjustment if the Touch Panel is slow to respond to a pressing action. • Use during the setup procedure.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Press the keys: Stop → 0 → Stop → 3 *3.* Using the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence. • These crosses may be touched in any order; but be sure to touch the center of each cross. • Use care not to damage the screen surface with the tip of the pen. 4036fs3015e0 *4.* The cross touched changes into a grid marker that consists of a square with a cross superimposed. 4036fs3016e0 *5.* Touch [END].

4.3 Tech. Rep. Mode function tree

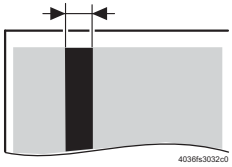
* The function tree is shown to comply with the format displayed on the screen.




Tech. Rep. Mode
System Input
Marketing Area
Org. Detect Option Sensor
Serial # Input
Tel. # Input
FLS Paper
Book Erase (Center)
Peripheral Setting
Unit Change
Reprint
Hard Disk
Display PM parts lifetime
LCT Paper Size
Chinese Paper Size
US Zoom Setting
Without Controller
Controller 1
Controller 2
Controller 3
Others
Admin. Password Initialize
Counter
Life
Jam
Trouble
Warning
Maintenance
List Output
State Confirm
I/O Check
Table #
Level History1
Level History2
Temp. & Humidity
CCD Check
Paper Passage
Option Check
Color Shift
IU Lot No.
LPH Status
Test Print
Gradation Pattern
Halftone Pattern
Lattice Pattern
Solid pattern
Color sample
8 Color Solid Pattern
LPH Pattern
ADF Check
Original Stop Position
Registration Loop
Auto Adjust Stop Position
Paper Passage
I/O Check
Tray Width Adjust
Sensor Auto Adjust
Gradation Adjust
Misc. Adjust
Transfer Belt Refresh
Transfer Belt Cleaning Bias
Transfer Belt Auto Cleaning
AIDC Table Correction

4.4 Machine Adjust

4.4.1 Fuser Nip

Functions	• To check the Fusing Roller nip width.
Use	• When a fusing failure occurs. • When a blurred image or brush effect occurs.
Check Range	A  A: 9 ± 0.5 mm.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Fuser Nip" *3.* Press the Start key to let the machine produce a test pattern. *4.* Check the fusing roller nip width.

4.4.2 Fuser Temp.

Functions	• To adjust individually the temperature of the Heating Roller and the Fusing Pressure Roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions. * Though all temperatures shown on the screen are 0 °C, they represent the following specific temperatures.

	Heating Roller	Pressure Roller
Plain paper	190 °C	130 °C
OHP	190 °C	170 °C
Thick 1	185 °C	130 °C
Thick 2	185 °C	130 °C
Thick 3	185 °C	130 °C
Envelope	185 °C	130 °C

Use	• When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
Adjustment Range	Heating Roller : -20 °C to +5 °C (step: 5 °C) Pressure Roller : -20 °C to +5 °C (step: 5 °C) ... OHP : -5 °C to +5 °C (step: 5 °C) .. others
Adjustment Instructions	If fusing performance is poor, increase the setting. If wax streaks occur, decrease the setting. If offset is poor, decrease the setting.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Fuser Temp." *3.* Select the paper type and Fusing Roller type. *4.* Enter the new setting from the Up/Down key Pad. *5.* The temperature does not change immediately when the setting is change. Wait a while before performing the subsequent steps. • As a general rule, do not adjust the fusing temperature on the pressure application side. *6.* Touch "END" to validate the adjustment value. *7.* Check the copy image for any image problem. *8.* Make the adjustment for each type of paper.

4.4.3 Fuser Speed

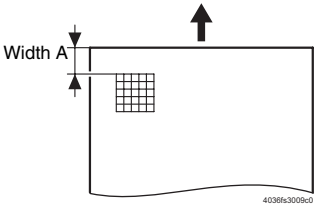
<table>
<tr><td>Functions</td><td>• To adjust the speed of the Fusing Drive Motor so as to match the fusing speed with transport speed.</td></tr>
<tr><td>Use</td><td>• Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.</td></tr>
<tr><td>Variable Range</td><td>-2 % to +2 % (in 0.1 % increments)</td></tr>
<tr><td>Adjustment Instructions</td><td>If brush effect is evident, vary the setting value and check for image.
If a blurred image occurs, decrease the setting.</td></tr>
<tr><td>Adjustment Procedure</td><td>1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “Fuser Speed.”
3. Select the transport speed, at which the brush effect or blurred image has occurred.
<table>
<tr><th>Transport speed</th><th>Paper Setting</th></tr>
<tr><td>165 mm/s</td><td>Plain paper: monochrome</td></tr>
<tr><td>100 mm/s</td><td>Plain paper: color</td></tr>
<tr><td>60 mm/s</td><td>Thick paper, OHP, Envelope, Postcard,
Labels: monochrome, color</td></tr>
</table>
4. Enter the new setting from the 10-Key Pad.
5. Touch “END” to validate the adjustment value.
6. Check the copy image for any image problem.
✻ Make the adjustment for each paper type.</td></tr>
</table>

4.4.4 Org. Detect Sensor

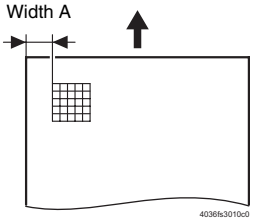
<table>
<tr><td>Functions</td><td>• To automatically adjust the original detection distance for the Original Size Sensor.</td></tr>
<tr><td>Use</td><td>• When the sensor is replaced with a new one.
• When an optional sensor has been added.
• When an erroneous original size detection is made.
• When the marketing area setting is changed.</td></tr>
<tr><td>Adjustment Instructions</td><td>If the adjustment has been successfully made, it completes the adjustment procedure.
If the adjustment has turned out to be unsuccessful, check the optional Original Size Sensors for correct installation and change the defective sensor or harness.</td></tr>
<tr><td>Adjustment Procedure</td><td>1. Place a blank sheet of A3 or 11 × 17 paper on the Original Glass and lower the Original Cover.
2. Call the Tech. Rep. Mode to the screen.
3. Touch these keys in this order: “Machine Adjust” → “Org. Detect Sensor.”
4. Press the Start key.</td></tr>
</table>

4.4.5 PRT Area

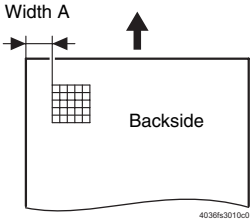
A. Top Margin

Functions	• To vary the print start position in the FD direction for each of different paper types in Tray1.
Use	• The LPH Unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the FD direction. • A faint image occurs on the leading edge of the image.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications : 5.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Select according to the paper used on the Paper Type Setting Dial. *2.* Touch “Machine Adjust” → “PRT Area” → “Top Margin.” *3.* Press the Start key to let the machine produce a test pattern. *4.* Check the dimension of width A on the test pattern. *5.* If width A falls outside the specified range, change the setting using the Up/Down key. *6.* Press the Start key to let the machine produce a test pattern. *7.* Check the dimension of width A on the test pattern. *8.* If width A is outside the specified range, change the setting again and make a check again. *9.* If width A falls within the specified range, touch “END” *10.*Following the same procedure, adjust for thickpaper, OHP, and envelopes.

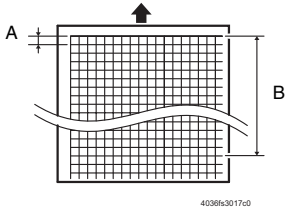
B. Left Margin

Functions	• To vary the print start position in the CD direction for each paper source.
Use	• The LPH Unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the CD direction.
Adjustment Specification	 Width A on the test pattern produced should fall within the following range. Specifications : 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Touch “Machine Adjust” → “PRT Area” → “Left Margin.” *2.* Press the Start key to let the machine produce a test pattern. *3.* Check the dimension of width A on the test pattern. *4.* If width A falls outside the specified range, change the setting using the Up/Down key. *5.* Press the Start key to let the machine produce a test pattern. *6.* Check the dimension of width A on the test pattern. *7.* If width A is outside the specified range, change the setting again and make a check again. *8.* If width A falls within the specified range, touch “END” *9.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Bypass.)

C. Dup. Left Margin

Functions	• To vary the print start position in the CD direction for each paper source in the 2-Sided mode.
Use	• The Automatic Duplex Unit has been set up. • The image on the backside of the 2-sided copy deviates in the CD direction.
Adjustment Specification	 •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications : 3.0 ± 0.5 mm Setting Range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch “Machine Adjust” → “PRT Area” → “Dup. Left Margin.” *3.* Press the Start key to let the machine produce a test pattern. *4.* Check the dimension of width A on the test pattern. *5.* If width A falls outside the specified range, change the setting using the Up/Down key. *6.* Press the Start key to let the machine produce a test pattern. *7.* Check the dimension of width A on the test pattern on the backside of the copy. *8.* If width A is outside the specified range, change the setting again and make a check again. *9.* If width A falls within the specified range, touch “END” *10.* Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 × 11 plain paper for the Manual Bypass Tray.)

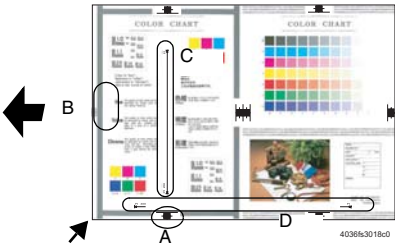
D. Zoom for FD

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• The CD-Mag. adjustment becomes necessary. • The image on the copy distorts (stretched, shrunk). • When the image on the copy is stretched in the FD direction.
Adjustment Specification	 Width A and width B on the test pattern produced should fall within the following ranges. Width A : equivalent to one grid Width B : equivalent to 48 grids Specifications A : 7.9 to 8.3 B : 389.1 to 392.1 Setting Range A, B : -10 to +10
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Load Tray1 with A3 or 11 × 17 plain paper. *2.* Select plain paper on the Paper Type Setting Dial. *3.* Select Tray1. *4.* Call the Tech. Rep. Mode to the screen. *5.* Touch these keys in this order: "Test Print" → "Lattice Pattern." *6.* Select "Black," "SINGLE," "FEET," "CD Width:2," "FD Width:2," "Density:255," and "Normal." *7.* Press the Start key to let the machine produce a test pattern. *8.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *9.* Touch these keys in this order: "Machine Adjust" → "PRT Area" → "Zoom for FD." *10.*If width of A or B falls outside the specified range, change the setting using the Up/Down keys. *11.*Press the Start key to let the machine produce a test pattern. *12.*Check width A and width B on the test pattern. *13.*If width A or B falls outside the specified range, change the setting value and make a check again. *14.*If width A or B falls within the specified range, touch "END." *15.*Following the same procedure, adjust for "Thick 1," "Thick 2," "Thick 3," "OHP," and "Envelope." (Check width A only for "OHP" and "Envelope.")

△1

4.4.6 IR Area

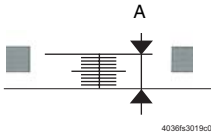
- Use the following Color Chart for the adjustment of the Scanner Section.
- If the Color Chart is not available, a scale may be used instead.



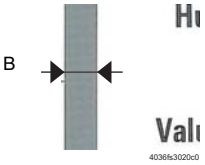
Original Reference

- A: Left Image
- B: Top Image
- C: CD-Mag
- D: FD-Mag

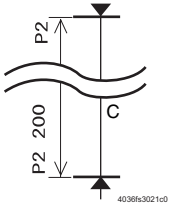
A. Left Image

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the CD direction.
Use	• When the CCD Unit is replaced. • When the Original Glass is replaced. • The Scanner Home Sensor has been replaced.
Adjustment Specification	 •Adjust so that width A on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Left Margin” of PRT Area. Specifications A : 10 ± 1.0 mm Setting Range -10.0 to +10.0 (in 0.1 mm increments)
Adjustment Instructions	If the 0-mm position on the sample copy is on the right side of the correct 0-mm position perpendicularly to the feeding direction (less than -1 mm), decrease the setting. If the 0-mm position on the sample copy is on the left side of the correct 0-mm position perpendicularly to the feeding direction (exceeding 1 mm), increase the setting.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Machine Adjust” → “IR Area.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If the image falls outside the specified range, touch “Left Image.” *7.* Change the setting using the Up/Down key. *8.* Press the Start key to make a copy. *9.* Check point A of the image on the copy to see if the specifications are met. *10.*Make adjustments until the specifications are met.

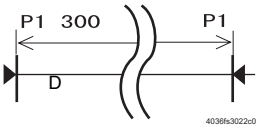
B. Top Image

Functions	• To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the CD direction.
Use	When the Original Glass is replaced. When the Original Width Scale is replaced.
Adjustment Specification	 •Adjust so that width B on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Top Margin” of PRT Area. Specifications B : 7 ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting Range -5.0 to +5.0 (in 0.1 mm increments)
Adjustment Instructions	If width B on the copy is less than 6.5 mm, decrease the setting value. If width B on the copy is more than 7.5 mm, decrease the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Machine Adjust” → “IR Area.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If width B on the copy falls outside the specified range, touch “Top Image.” *7.* Change the setting using the Up/Down key. *8.* Press the Start key to make another copy. *9.* Check the image on the copy to see if the specifications are met. *10.*Make adjustments until the specifications are met.

C. CD-Mag

Functions	• To adjust the zoom ratio in the CD direction for the Scanner Section
Use	• The CCD Unit has been replaced.
Adjustment Specification	 •Adjust so that width C on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Zoom for FD” of PRT Area. Specifications C : 200 ± 1.0 mm CD-Mag Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the specified width on the copy is less than 199 mm, increase the setting. If the specified width on the copy exceeds 201 mm, decrease the setting.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Machine Adjust” → “IR Area.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point C on the image of the copy. *6.* If the image falls outside the specified range, touch “CD-Mag.” *7.* Change the setting using the Up/Down key. *8.* Press the Start key to make another copy. *9.* Check the image on the copy to see if the specifications are met. *10.*Make adjustments until the specifications are met.

D. FD-Mag

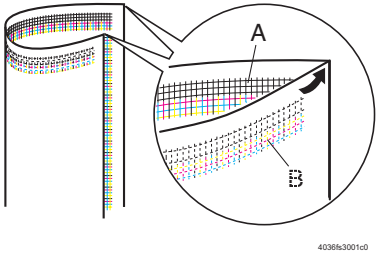
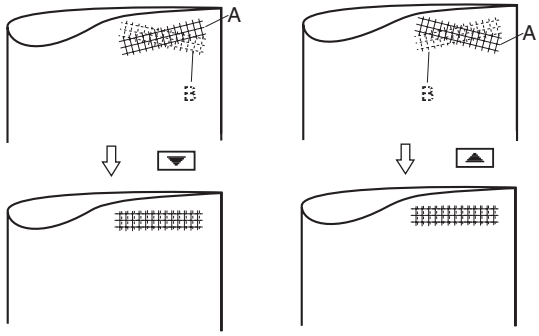
Functions	• To adjust the zoom ratio in the FD direction for the Scanner Section
Use	• The Scanner Assy has been replaced. • The Scanner Motor has been replaced. • The Scanner Drive Cables have been replaced.
Adjustment Specification	 •Adjust so that width D on the sample copy made falls within the specified range. •An adjustment must have been completed correctly of “Zoom for FD” of PRT Area. Specifications D : 300 ± 1.5 mm FD-Mag Setting Range 0.990 to 1.010 (in 0.001 increments)
Adjustment Instructions	If the specified width on the copy is less than 298.5 mm, increase the setting. If the specified width on the copy exceeds 301.5 mm, decrease the setting.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Machine Adjust” → “IR Area.” *3.* Position the Color Chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point D on the image of the copy. *6.* If the image falls outside the specified range, touch “FD-Mag.” *7.* Change the setting using the Up/Down key. *8.* Press the Start key to make another copy. *9.* Check the image on the copy to see if the specifications are met. *10.*Make adjustments until the specifications are met.

4.4.7 Loop Adjust

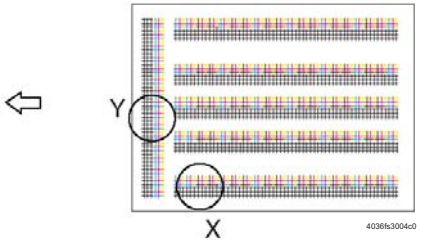
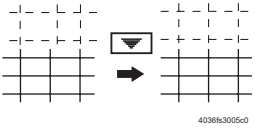
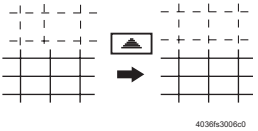
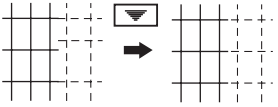
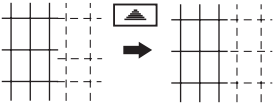
Functions	• To set the correction value of the paper loop length for each system speed of Tray1 to Tray4, Bypass, and Duplex. • To adjust the length of the loop formed in paper before the Synchronizing Rollers. • Use “Paper Passage” for paper passage check.
Use	When a paper skew occurs. When a paper misfeed occurs.
Adjustment Range	Different setting ranges are set for different transport speeds. 165 mm/s : -6 to +6 100 mm/s : -10 to +10 60 mm/s : -15 to +15
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Machine Adjust” → “Loop Adjust” *3.* Select the transport speed. *4.* Enter the new setting from the 10-Key Pad.

4.4.8 Color Shift Correction

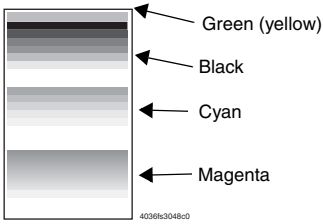
A. Black

Functions	• To correct black color shift, if it occurs • Make Color Shift Corrections (cyan, magenta, and yellow) after this adjustment has been made.
Use	• To correct black color shift, if it occurs • The LPH Assy (Bk) has been replaced.
Adjustment Range	**0** (-10 to +10 dot)
Adjustment Instructions	If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value.
Adjustment Procedure	*1.* Machine Adjust → Color Shift Correction. *2.* Load Tray1 with A3 or A4R plain paper. *3.* Press the Start key. *4.* Fold the printed test pattern in half lengthwise to check for deviation (the image on the inside). *5.* Check deviation between black lines A and B. *6.* Select black. *7.* Change the setting value using the Up/Down key as necessary. *8.* Produce another test pattern and check for deviation. Check Procedure Check point A, B  4036fs3001c0 If the black reference line deviates in the direction of C, decrease the setting value. If the black reference line deviates in the direction of D, increase the setting value. Direction of C Direction of D  4036fs3002c0 4036fs3003c0

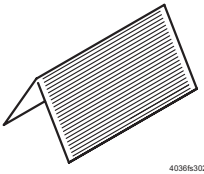
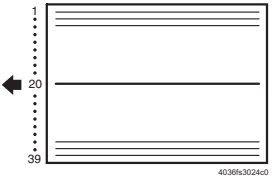
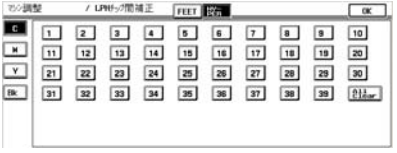
B. Cyan, Magenta, Yellow

Functions	• To adjust color shift if there is any color shift as found through comparison of the copy with the original • Before making this adjustment, be sure to perform Color Shift Correction (Bk).
Use	• To correct any color shift
Adjustment Range	**0** (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Machine Adjust → Color Shift Correction. *3.* Load Tray1 with A3 or A4R plain paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the Up/Down key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  Adjustment for X direction: Check point X If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  Direction of D  Adjustment for Y direction: Check point Y If the cross deviates in the direction of C, increase the setting. If the cross deviates in the direction of D, decrease the setting. Direction of C  Direction of D 

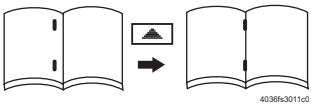
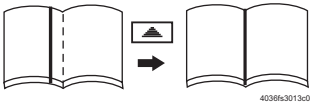
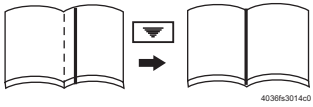
4.4.9 LPH Rank

Functions	• To correct uneven LPH image by producing an output of the LPH Pattern of Test Print
Use	• When an uneven image occurs and is not eliminated even after other troubleshooting procedures have been carried out. • When the LPH Unit has been replaced • When the LPH Assy has been replaced
Adjustment Range	**1** (1 to 5) ✻ 0 is not used.
Adjustment Procedure	*1.* Load Tray1 with A3 plain paper. *2.* Call the Tech. Rep. Mode to the screen. *3.* Touch "Machine Adjust" → "LPH Rank." *4.* Return the Rank settings for all four colors back to "1." *5.* Press the Start key to let the machine produce a test pattern. LPH Pattern  *6.* Identify the spot, at which uneven image occurs. *7.* Select the color (Cyan, Magenta, Yellow, Black) that develops uneven image. ✻ Select Yellow if green on the test pattern develops uneven image. *8.* Using the 10-Key Pad, enter a value of the Rank value shown on the screen plus one. ✻ If Rank is "1," enter 2. ✻ If "0" is set for Rank, set "1." Do not use "0." *9.* Let the machine produce another test pattern and check for uneven image. *10.*Repeat steps 1 through 8 until the uneven image is gone.

4.4.10 LPH Chip Adjust

Functions	• To correct chips of locations where FD white lines or black lines occur in the LPH Pattern produced using “Test Print.”
Use	• White line or color line or black line occurs in the FD direction. • The LPH Assy has been replaced. • The LPH Unit has been replaced.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: “Test Print” → “LPH Pattern.” *3.* Select “SINGLE,” “HYPER,” “Gradation,” and “Border Line:ON.” *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the test pattern for the location, at which white lines or color or black lines in FD occur. *6.* Touch these keys in this order: “Machine Adjust” → “LPH Chip Adjust.”  4036fs3023c0 *7.* Fold the test pattern in half. (with the pattern face on the outside) *8.* The chip boundary line on the crease (the center) of the test pattern corresponds to “20” on the panel. Starting here count out to each side of the paper to identify each location  4036fs3024c0  4036fs3025j0 *9.* Find the number on the panel, to which the location of white lines or black lines in FD checked in step 5 corresponds. *10.*Select the color (C, M, Y, or Bk) in which white lines or black lines in FD occur. ✻ If the lines occur only in green on the test pattern, select Y. *11.*Touch the corresponding number on the panel. (It is then highlighted and the setting value is displayed besides the highlighted number.) *12.*Change the setting value using the 10-Key Pad. ✻ When a new LPH Unit has been installed, corrections can be made for up to eight locations. ✻ Corrections for up to five locations can be made through factory adjustments. If white lines or black lines in FD occur, therefore, corrections can therefore be made in the field for three to eight locations. *13.*Select HYPER and color. *14.*Press the Start key to let the machine produce a test pattern and check for lines.

4.4.11 Center Binding Position (FS-601 only)

Functions	• To adjust the positions of center staple and folding for the Finisher.
Use	• Use when the center staple and folding positions deviate from the correct ones in the copies made using the Booklet function.
Adjustment Specification	• Center staple position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments). • Fold position: The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).
Adjustment Instructions	If deviated to the left, increase the setting value. If deviated to the right, decrease the setting value.
Adjustment Procedure	*1.* Use the Booklet function to make one sample booklet. *2.* Call the Tech. Rep. Mode to the screen. *3.* Machine Adjust → Center Binding Position. *4.* Check the sample copy and make the necessary adjustment as detailed in the following. Adjusting the center staple position: *5.* If the staple positions deviate, use these steps to make the adjustment. If the staple positions deviate to the left side, increase the setting value. If the staple positions deviate to the right side, decrease the setting value. Deviated to left Deviated to right  4036fs3011c0 4036fs3012c0 Adjusting the folding position: *6.* If the folding position deviates, use these steps to make the adjustment. If the folding position deviates to the left side, increase the setting value. If the folding position deviates to the right side, decrease the setting value. Deviated to left Deviated to right  4036fs3013c0  4036fs3014c0 *7.* Quit the Tech. Rep. Mode. *8.* Using the Booklet function, make another sample booklet for confirmation. *9.* Check the sample copy and repeat the adjustment procedures until there are no deviations in the staple or folding position.

4.4.12 Memory / HardDisk Adjust

A. Memory Check

Functions	• To check correspondence of data written to and that read from memory through write/read check. Rough Check • A check is made to see if the image data reading and writing are correctly made in a very limited area. Detail Check • A check is made to see if the image data reading and writing are correctly made at the addresses and buses in all areas. • The progress of the check sequence is displayed in percentage.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Memory Check." *3.* Select the desired type of check, either Rough Check or Detail Check. *4.* Press the Start key to start the check procedure. *5.* When the check procedure is completed, the results are shown on the screen. If the check results are NG, check the memory for connection or replace the memory with a new one. ✻ Press the Stop key to interrupt the check sequence. (Only Rough Check)

B. Compress / Extension Check

Functions	• To check whether compression and decompression are carried out properly.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Compress / Extension Check." *3.* Pressing the Start key will automatically start to complete a compression/decompression check sequence. *4.* The check result will be displayed, ✻ Press the Stop key to interrupt the check sequence.

C. Memory Bus Check

Functions	• To check to see if image data is correctly transferred from IR to memory, and from memory to printer.
Use	• If the copy image is faulty.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Memory Bus Check." *3.* Select either "IR → Memory," "Memory → PRT," or both. *4.* Pressing the Start key will start the memory bus check and be terminated automatically. *5.* The check result will be displayed, "OK" or "NG".

D. Work Memory In/Out Check

Functions	• To check to see if input and output of image data of work memory are correctly performed.
Use	• If the print image is faulty.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Work Memory In/Out Check" *3.* Select either "Input Check," "Output Check," or both. *4.* Pressing the Start key will start the work memory input/output operation check sequence and be terminated automatically. *5.* The check result will be displayed, "OK" or "NG". ✻ Press the Stop key to interrupt the check sequence.

E. Hard Disk R/W Check

Functions	• To check to see if the hard disk is connected properly, and if read/write operation of the hard disk is correctly performed.
Use	• When the hard disk is mounted.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Hard Disk R/W Check" *3.* Pressing the Start key will start the hard disk R/W check sequence and be terminated automatically. *4.* The check result will be displayed, "OK" or "NG" ✻ Press the Stop key to interrupt the check sequence.

F. Hard Disk Format

⚠1 Functions	• To format the hard disk • The function proceeds in the order of Physical Format to Logical Format. • If the hard disk is yet to be formatted, the malfunction code "C-12CC" will appear. Ignore this code and continue with the formatting procedure.
Use	• When the hard disk is mounted. • When the hard disk is to be initialized. (Physical Format to Logical Format)
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Memory / HardDisk Adjust" → "Hard Disk Format" Physical Format *1.* Touch "Physical Format." *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn OFF and ON the Power Switch. Logical Format (Only when initial is set up) *1.* Touch "Logical Format." *2.* Press the Start key to start the formatting sequence. *3.* The sequence will be automatically terminated as it is completed. *4.* Turn OFF and ON the Power Switch. ✻ Formatting the hard disk will erase all data contained in it.

4.4.13 Bypass Guide Adjust

Functions	• To set the maximum width and the minimum width for the Bypass Paper Size Unit of the Bypass Guide
Use	• Use when the Bypass Paper Size Unit of the Bypass Guide has been changed. • Use when a false paper size is displayed when the Bypass is used.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Machine Adjust" → "Bypass Guide Adjust" *3.* Touch "Max. Width." *4.* Load the Bypass Tray with paper having a width of 301 mm. *5.* Press the Start key and check that the results are OK. *6.* Touch "Min. Width." *7.* Load the Bypass Tray with paper having a width of 89 mm. *8.* Press the Start key and check that the results are OK. ✻ Make the adjustment again if the results are NG.

4.5 ROM Version

Functions	• To check the ROM version.
Use	• Use when the firmware is upgraded. • When the firmware is upgraded or PWB is replaced.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "ROM Version" *3.* Touch "1" to check the following ROM version numbers. MSC/PANEL, MSC Subset, PIC, IR, Mecha, LPH, ADF IC7, Sorter/Finisher IC3 *4.* Touch "2" to check the following ROM version numbers. Controller, DSS, DPS, Demo Page, NM, MIO, MIOM, Font

4.6 Image Adjust

4.6.1 PRT Max Density

Functions	• To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of γ of each color after Gradation Adjust.
Use	• An image quality problem is not corrected even after Gradation Adjust has been run.
Adjustment Range	**0** (-10 to +10)
Adjustment Instructions	To increase the maximum amount of toner sticking, increase the setting value. To decrease the maximum amount of toner sticking, decrease the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "PRT Max Density." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to return to the "Image Adjust" menu screen. *6.* Touch "Stabilizer." *7.* Touch "Stabilizer Mode." *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

4.6.2 PRT Highlight

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after Gradation Adjust.
Use	• An image quality problem is not corrected even after Gradation Adjust has been run.
Adjustment Range	**0** (-10 to +10)
Adjustment Instructions	To make the Highlight portion darker, increase the setting value. To make the Highlight portion lighter, decrease the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "PRT Highlight." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to return to the "Image Adjust" menu screen. *6.* Touch "Stabilizer." *7.* Touch "Stabilizer Mode." *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

4.6.3 Background Voltage Margin

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after Gradation Adjust.
Use	• Use when a foggy background occurs due to a printer problem
Adjustment Range	**0** (-5 to +5)
Adjustment Instructions	To make the background level foggier, increase the setting value. To make the background level less foggy, decrease the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "Background Voltage Margin." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to return to the "Image Adjust" menu screen. *6.* Touch "Stabilizer." *7.* Touch "Stabilizer Mode." *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

4.6.4 ATDC Level Setting

Functions	• To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change.
Use	• Use when T/C changes due to changes in environmental conditions of the user site
Adjustment Range	**0** (-3 to +3) The central value of 0 corresponds to 7 % of T/C (in 1.0 % increments).
Adjustment Instructions	To increase T/C, increase the setting value. To decrease T/C, decrease the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "ATDC Level Setting." *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to validate the adjustment value. *6.* Check the copy image for any image problem.

4.6.5 AE Adjust

Functions	• To adjust subtle shades of the highlight portion according to the user's need by varying the background level in a direction of less foggy or foggier setting in the Auto Exposure mode.
Use	When a fog occurs, or no image is produced, in the background in the Auto Exposure mode.
Adjustment Range	**2** (0 to 4)
Adjustment Instructions	To make the background level foggier, change the setting value to 3 or 4. To make the background level less foggy, change the setting value to 0 or 1.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "AE Adjust." *3.* Enter the new setting from the 10-Key Pad. *4.* Touch "END" to validate the adjustment value. *5.* Check the copy image for any image problem.

4.6.6 2nd Transfer Adjust

Functions	• To fine-adjust the second transfer output (ATVC) for the first side and the second side, respectively.
Use	When an image transfer failure occurs at the trailing edge (of plain paper).
Adjustment Range	**0** (-5 to +5)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), decrease the setting value. To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "2nd Transfer Adjust." *3.* Select the side of the image (First side or Second side), on which the transfer failure at the trailing edge occurs. *4.* Enter the new setting from the 10-Key Pad. *5.* Touch "END" to validate the adjustment value. *6.* Check the copy image for any image problem.

4.6.7 Stabilizer

A. Stabilizer Mode

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • When PRT Max Density, PRT Highlight, and Background Voltage Margin of Tech. Rep. mode are changed.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "Stabilizer" *3.* Touch Stabilizer Mode. *4.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *5.* Stabilizer is completed when the Start key turns green.

B. Reset and Stabilizer Mode

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after Gradation Adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Stabilizer Mode has been executed.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "Stabilizer" *3.* Touch Reset and Stabilizer Mode. *4.* Press the Start key to start Stabilizer. The Start key turns orange and stays lit up orange during the Stabilizer sequence. *5.* Stabilizer is completed when the Start key turns green.

4.6.8 ATDC Toner Supply

Functions	• To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of copies have been made of originals having a high image density.
Use	• When there is a drop in T/C.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "ATDC Toner Supply" *3.* Select the color, for which supply of toner is to be replenished. *4.* Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. *5.* These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.

4.6.9 Feeding double sided THIN PAPER

Functions	• Turn this function ON when thin paper (64 g/m^2) is used in an ambience of high temperature and high humidity in the 2-sided mode. • It decreases the transfer output value so as to prevent a paper misfeed from occurring.
Use	• Use when a paper misfeed occurs when thin paper is used.
Setting/ Procedure	• The default setting is OFF. ON **OFF**

4.6.10 Thick Paper Image Density

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies.
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	• The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level.
Adjustment Instructions	Light color: Touch the Darker key. Dark color: Touch the Lighter key.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "Thick Paper Image Density" *3.* Touch the Lighter or Darker key for the desired color to correct the image density.

4.6.11 Monochrome Image Density

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	Lighter (2 steps), **Std**, Darker (2 steps)
Adjustment Instructions	If the black is light, touch the Darker key. If the black is dark, touch the Lighter key.
Adjustment Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch these keys in this order: "Image Adjust" → "Monochrome Image density." *3.* Touch the Lighter or Darker key as necessary to correct the image density.

4.6.12 Bias Voltage Choice

Functions	• To change the setting of the developing bias voltage • When this function is turned ON, it decreases the developing bias voltage, thereby preventing voltage leak from occurring.
Use	• Use when patches of white occur in the image in an ambience of low atmospheric pressure, such as in high altitudes.
Setting/ Procedure	• The default setting is OFF. ON **OFF**

4.7 Settings in KRDS / RD Mode

- The remote diagnosis system displayed varies according to the setting made with “Security Mode” → “Remote Diagnosis System Choice.”
- Make the settings necessary when a Data Terminal is mounted.

☞ For details, see Service Manual for Data Terminal.

A. e-mail / Modem

Functions	• Select the type of system used in the Remote Diagnosis System. KRDS : e-mail RD Mode :e-mail, Modem
Use	• Use when the system is newly installed or the existing one is changed.
Setting/Procedure	• Select e-mail or Modem. e-mail Modem

B. ID Code

Functions	• To register the Tech. Rep. ID code.
Use	• To register or change the Tech. Rep. ID code
Setting/Procedure	• Enter a 7-digit code from the 10-Key Pad (0000001 to 9999999). Registration • Touch ID Code and enter the Tech. Rep. ID. • Press the ID key to register the ID. • The “Detail Setting” key will appear when the ID has been registered.

C. DT Setting

Functions	• To make the DT setting and perform the initial transmission.
Use	• Use to change the details of setting. • Use to register the machine with the Center.
Setting/Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch “KRDS” or “RD Mode.” *3.* Touch “Detail Setting” to access DT Setting. DT Setting • Set “Password,” “DT-ID,” and “TEL No.” • When “e-mail” is selected for the ID Setting, TEL No. is the e-mail address. Initial Transmission • Press the Initial Transmission key to execute the initial transmission to the Center and the machine equipped with the Data Terminal is registered with the Center (only if “Modem” is selected for “System Selection”).

D. Date/Time Input

Functions	• To set the date and time-of-day.
Use	• Use to set or change the date and time-of-day.
Setting/Procedure	*1.* Call the Tech. Rep. Mode to the screen. *2.* Touch “KRDS” or “RD Mode.” *3.* Touch “Detail Setting” to access Date/Time Input. *4.* Enter the date (month, day, and year) and time-of-day from the 10-Key Pad. Touch “SET” to start the clock.

E. Common DT (Only RD Mode)

Functions	• To set tone or pulse and automatic reception.
Use	• Use to change the details of setting.
Setting/Procedure	Dial Mode • The default setting is “Tone”. **Tone** Pulse Auto Receive • The default setting is Disable. Enable **Disable**

F. RAM Clear

Functions	• To clear the following data for the Center. ID Code, DT Setting, Date/Time Input, and Common DT.
Use	• Use to clear various types of data of the Center.
Setting/Procedure	• The default setting is Disable. Enable **Disable**

4.8 System Input

4.8.1 Marketing Area

Functions	• To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
Use	• Upon setup
Setting/Procedure	• Select the applicable marketing area and touch “END” to set the marketing area. JAPAN US Europe Others1 Others2 Others3 Others4 ✻ These are the languages that can be selected on the Utility screen according to different marketing area settings:

Japan	English, Japanese
US:	English, French, Spanish, Japanese
Europe Others1, Others2 Others3, Others4	German, English, French, Dutch, Norwegian, Danish, Swedish, Italian, Portuguese, Spanish, Finnish, Czech, Hungarian, Japanese

4.8.2 Org. Detect Option Sensor

Functions	• To let the machine recognize an optional Original Size Sensor when one is mounted.
Use	• When an optional sensor is mounted.
Setting/Procedure	• After the optional Original Size Sensor has been mounted, select “Set.” • The default setting is Unset. Set **Unset** • After the sensor has been mounted, perform “Org. Detect Sensor” of “Machine Adjust.”

4.8.3 Serial # Input

Functions	• To register the serial numbers of the machine and options. • The numbers will be printed on the list output.
Use	• Upon setup
Setting/Procedure	• Type the serial numbers. 9 digits (0 to 9) Printer, IR, ADF, LCT, Sorter/FN, Duplex, Vender • “Memo”: 20 digits ; use ✻ key to enter “-.”, Enter the 10-Key Pad.

4.8.4 Tel. # Input

Functions	• To enter the telephone number of the service contact that will appear on the Touch Panel when a malfunction occurs in the machine.
Use	• Upon setup
Setting/Procedure	• Enter the telephone number (19 digits) from the 10-Key Pad. • Use Interrupt key to enter “-.”

4.8.5 FLS Paper

Functions	• To set the size for FLS paper.
Use	• Upon setup.
Setting/Procedure	• Select the size from among the following four. **F: 330.2 mm** F: 330 mm F: 330.2 mm F: 330 mm **C: 203.2 mm** C: 210 mm C: 215.9 mm C: 220 mm

4.8.6 Book Erase (Center)

Functions	• To change the center erase width in Book copying.
Use	• As required by the user.
Setting/Procedure	• The default setting is 15 mm. **15 mm** (2 to 30 mm)

4.8.7 Peripheral Setting

Functions	• To set the type of the controller. • "Peripheral Mode" appears when "Controller 2" or "Others" is selected. • "Server Set (RD)" or "Server Set (KRDS)" appears when "Controller 3" is selected.
Use	• When setting up the controller
Setting/Procedure	Peripheral Setting • Select the controller to be used. Without Controller : No external controllers are used. Controller 1 : An external controller is used. Controller 2 : An external controller is used. **Controller 3** : The standard controller is used. Others : A controller other than above is used. ☞ See the Setup Instructions for the Controller. Peripheral Mode • Select the operating mode of the Scanner. **Mode 1**: Fiery. Mode 2: Not use Mode 3: Not use KRDS / RD Mode • Use for the Remote Diagnosis System setting when the standard controller is used. • Settings are changed for KRDS or RD according to the Remote Diagnosis System selected in the Security mode.

4.8.8 Server set (KRDS) / Server set (RD)

A. Server for RX

- These are the settings for the RX server used in the Remote Diagnosis System for the standard controller.

(1) POP3 server

Functions	• To set the POP3 server address used for the Remote Diagnosis System for the standard controller.
Use	• To set the address of the POP3 Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) POP3 login name

Functions	• To set the logon name for the POP3 server used for the Remote Diagnosis System for the standard controller.
Use	• To set the logon name for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 64 characters (alphanumeric characters and symbols) can be used.

(3) POP3 password

Functions	• To set the logon password for the POP3 server used for the Remote Diagnosis System for the standard controller.
Use	• To set the logon password for the POP3 server
Setting/Procedure	• The default setting is No. • Up to 16 characters (alphanumeric characters and symbols) can be used.

(4) POP3 port number

Functions	• To set the POP3 port number used for the Remote Diagnosis System for the standard controller.
Use	• To set the port number for the POP3 server
Setting/Procedure	• The default setting is 110. **110** (0 to 65535)

B. Receive

- These are the settings for the Receive used in the Remote Diagnosis System for the standard controller.

(1) E-Mail Address

Functions	• To set the email address used for the Remote Diagnosis System for the standard controller
Use	• To set the email address
Setting/Procedure	• The default setting is No. • Up to 129 characters (alphanumeric characters and symbols) can be used.

(2) Mail check

Functions	• To set whether or not to use Mail Check and the time interval for the POP3 server used for the Remote Diagnosis System for the standard controller
Use	• To select not to use Mail Check • To change the time interval for Mail Check
Setting/Procedure	• The default setting is 15 min. **15 min.** (1 to 120 min., No)

(3) Connection timeout

Functions	• To set the timeout period for connection during reception
Use	• To change the timeout period for connection during reception
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (30 to 300 sec.)

C. Send

- These are the settings for the Send used in the Remote Diagnosis System for the standard controller.

(1) SMTP server

Functions	• To set the SMTP server address for transmission used for the Remote Diagnosis System for the standard controller
Use	• To set the address of the SMTP Server
Setting/Procedure	• IP Address Version 4 format [0 to 255]. [0 to 255]. [0 to 255]. [0 to 255]

(2) SMTP port number

Functions	• To set the SMTP port number for transmission used for the Remote Diagnosis System for the standard controller
Use	• To set the Port Number of the SMTP Server
Setting/Procedure	• The default setting is 25. **25** (1 to 65535)

(3) Timeout of SMTP Server

Functions	• To set the timeout period for transmission
Use	• To change the timeout period for connection during transmission
Setting/Procedure	• The default setting is 60 sec. **60 sec.** (30 to 300 sec.)

D. Communication Log Print

- This is the setting made for the communication log used for the Remote Diagnosis System for the standard controller.

Functions	• To print a log of past ten communications activities
Use	• Use for checking the communication log.
Setting/Procedure	• Press the Start key to let the machine start printing the log.

E. TX / RX Test

- This is the setting made for the transmission and reception tests used for the Remote Diagnosis System for the standard controller.

Functions	• To send test email to your local machine for determining correct transmission and reception
Use	• Use for the verification test during setup.
Setting/Procedure	• Press the Start key to let the machine start the transmission and reception test. • The test results are displayed on the screen.

F. Data Initialize

- This is the setting made for initialize data used for the Remote Diagnosis System for the standard controller.

Functions	• To initialize the settings
Use	• Use for deleting details of the current settings.
Setting/Procedure	• Select “Yes” and Touch “END” to start the initialization sequence.

4.8.9 Unit Change

Functions	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. When “User” is selected : Copying is inhibited. When “Service” is selected : Life warning.
Use	• Upon setup
Setting/Procedure	• The following are the default settings: US, Others4, Japan / Europe, Others1/2/3 Toner Cartridge : **User** Service **User** Service Imaging Unit : User **Service** **User** Service Waste Toner Bottle : User **Service** **User** Service Punch Scraps Box : User **Service** **User** Service

4.8.10 Reprint

Functions	• To select whether to display the option of “Reprint” for “Admin. Mode” of “Utility.”
Use	• Use to hide the option of “Reprint” for “Admin. Mode” of “Utility.”
Setting/Procedure	• The default setting is Enable. **Enable** Disable

4.8.11 Hard Disk

Functions	• To configure the copier as necessary when a hard disk is mounted.
Use	• Use when the hard disk is mounted.
Setting/Procedure	• The default setting is Unset. Set **Unset** ✻ When the setting has been changed, turn OFF and ON the Power Switch.

4.8.12 Display PM parts lifetime

Functions	• To select whether or not to give the display of PM parts lifetime PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part. • Applicable units: Transfer Belt Unit, Fusing Unit, Paper Powder Filter/Ozone Filter, Transfer Roller Unit, IU (C, M, Y, Bk)
Use	• Use to select not to give the display of PM parts lifetime.
Setting/Procedure	The default setting is Yes. **Yes** No

4.8.13 LCT Paper Size

Functions	• To set the paper size for the LCT
Use	• Use to change the paper size for the LCT.
Setting/Procedure	The default setting depends on the setting made for the applicable marketing area. A4 : Europe, Others1/2/3, Japan Letter : US, Others4

4.8.14 Chinese Paper Size

Functions	• To set the paper size for Chinese paper
Use	• Use to change the paper size for the Chinese paper.
Setting/Procedure	• The following sizes are the default setting. 8K: 390 × 270 mm 16K 270 × 195 mm : US, Europe, Others1/2/4, Japan 8K: 390 × 267 mm 16K 267 × 195 mm : Others3

4.8.15 US Zoom Setting

• This option becomes available only when “US” is selected for “Marketing Area.”

Functions	• To change the fixed zoom ratios
Use	• Use to change the fixed zoom ratios.
Setting/Procedure	• The default setting is 0.733. **0.733** 0.772

4.9 Admin. Password Initialize

Functions	• To initialize the administrator code and PSL administrator code.
Use	• Use to delete the current settings.
Setting/ Procedure	• Select “Yes” and touch “END” to initialize the settings.

4.10 Settings in Counter

- The Counter displays the counts of various counters to allow the Tech. Rep. to check or set as necessary.

4.10.1 Procedure

1. Touch “Counter” to show the Counter menu.
2. Select the specific counter to be displayed.
3. To clear the counts of two or more counters within a group or across different groups at once, touch “Counter Reset,” select the specific counters to be cleared, and touch “END.” Two or more counters can be selected.

4.10.2 Life

Functions	• To check the number of hours or times each of the different maintenance parts has been used. • To clear the count of each counter.
Use	• When each of the maintenance parts is replaced.
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the Fusing Unit, Transfer Belt Unit, and IU, which are provided with a new unit detection function. 1 • Fusing Unit: Number of times a sheet of paper is fed through • Transfer Roller Unit: Number of times a sheet of paper is fed through • Transfer Belt Unit: Number of times a sheet of paper is fed through • Paper Powder Filter/Ozone Filter: Number of times a sheet of paper is fed through • 1st.: Number of sheets of paper fed from Tray1 • 2nd.: Number of sheets of paper fed from Tray2 • 3rd.: Number of sheets of paper fed from Tray3 • 4th.: Number of sheets of paper fed from Tray4 • Manual Bypass : Number of sheets of paper fed from the Bypass
	2 • Cyan IU: Period of time over which the Cyan Developing Unit has been used. • Magenta IU: Period of time over which the Magenta Developing Unit has been used. • Yellow IU: Period of time over which the Yellow Developing Unit has been used. • Black IU: Period of time over which the Black Developing Unit has been used. • LCT Parts: Number of sheets of paper fed from the LCT • ADF Feed: Number of sheets of paper fed through the take-up section of the ADF • ADF Rev.: Number of sheets of paper fed through the turnover unit of the ADF • Sorter/Finisher: Number of sheets of paper fed out of the Sorter/Finisher • Staple: Number of stapling sequences performed • Punch: Number of hole-punch sequences performed • Paper Fold: Number of folding sequences performed

4.10.3 Jam

Functions	• To check the number of misfeeds that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of paper misfeeds that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

4.10.4 Trouble

Functions	• To check the number of malfunctions that have occurred at different locations in the machine • To clear the count of each counter.
Use	• To check the number of malfunctions that have occurred
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

4.10.5 Warning

Functions	• To check the number of warning conditions detected according to the warming type • To clear the count of each counter.
Use	• To check the number of warning conditions that have been detected
Setting/ Procedure	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • When a warning condition occurs, an oil mark appears at the lower left corner of the Basic screen. • Touching the oil mark will display the warning code screen.

4.10.6 Maintenance

Functions	• To set a count value for maintenance of any given part.
Use	• When any given part is replaced.
Setting/ Procedure	Maint.-Set • Enter the maintenance counter value from the 10-Key Pad. Maint.-Count • Counts up when a sheet of paper is fed through the machine. • Pressing the Clear key will clear the count. • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

4.11 List Output

4.11.1 Image Processing

Functions	• To produce an output of a list of setting values, adjustment values, Total Counter values, and others.
Use	• At the end of setup or when a malfunction occurs.
⚠1 Setting/ Procedure	• Load the A4R plain paper to a paper sorce. • Press the Start key, which will let the machine produce the list. • Data printed is in English (alphanumeric characters). • The time-of-day and date will also be printed.

4.11.2 Counter

Functions	• To produce an output of a list of counts of various counters.
Use	• At the end of setup or when a malfunction occurs.
⚠1 Setting/ Procedure	• Load the A4R plain paper to a paper sorce. • Press the Start key, which will let the machine produce the list. • Data printed is in English (alphanumeric characters). • The time-of-day and date will also be printed.

4.12 Settings in State Confirm

4.12.1 I/O Check

Functions	• To display the states of the input ports of sensors and switches when the machine remains stationary.
Use	• Used for troubleshooting when a malfunction or a misfeed occurs.
Setting/ Procedure	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a cover is open.

A. Electrical Components Check Procedure Through Input Data Check

Example

- When a paper misfeed occurs in the paper take-up section of the machine, the Tray2 Paper Take-Up Sensor is considered to be responsible for it.

1. Remove the sheet of paper misfed.
2. From the I/O Check List that follows, check the panel display of the Tray2 Paper Take-Up Sensor. For the Tray2 Paper Take-Up Sensor, you check the data of “Take-Up” of “2nd Drawer.”
3. Call the Tech. Rep. mode to the screen.
4. Select “State Confirm” → “I/O Check” and then select the screen that contains “Take-Up” under “2nd Drawer.” For “Take-Up” under “2nd Drawer,” select “1” on the left-hand side of the screen.
5. Check that the data for “Take-Up” under “2nd Drawer” is “0” (sensor blocked).
6. Move the actuator to unblock the 2nd Drawer Paper Take-Up Sensor.
7. Check that the data for “Take-Up” under “2nd Drawer” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

B. I/O Check Screens

- These are only typical screens which may be different from what are shown on each individual machine.

I/O Check

END

1 2 3 4 5

Sensors 1

1st Drawer	Upper Limit Sensor 0	Paper Near Empty 0	Paper Passage
Set 0	3rd Drawer	Vertical Transport S 0	Timing Roller 0
Paper Empty 0	Set 0	Take-Up 0	Exit 0
Paper Near Empty 0	Paper Empty 0	Upper Limit Sensor 0	OHP Detect Sensor 0
Double Feed 0	Paper Near Empty 0	Manual	Fuser Loop 0
2nd Drawer	Vertical Transport S 0	Multi FD Size 10	PC Drive Detect
Set 0	Take-Up 0	Multi FD Size 20	Color PC Drive Main Sensor 0
Paper Empty 0	Upper Limit Sensor 0	Multi FD Size 30	Color PC Drive Sub Sensor 0
Paper Near Empty 0	4th Drawer	Multi FD Size 40	Black PC Drive Main Sensor 0
Vertical Transport S 0	Set 0	Lift-Up Position Sensor 0	Black PC Drive Sub Sensor 0
Take-Up 0	Paper Empty 0	Paper Empty 0	

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I/O Check

END

1 2 3 4 5

Sensors 2

LCT	Manual Button Down 0	Paper Detect Reverse Sensor 0	2nd Transfer
Lift-Up Upper Sensor 0	Division Board Position S 0	Dev.	Transfer Unit Separation 0
Lift-Up Lower Sensor 0	Cassette Open 0	Cyan Toner Empty 0	Transfer Belt
Shift Tray Home Sensor 0	Shift Motor 0	Magenta Toner Empty 0	Transfer Unit Separation 0
Shift Tray Stop S 0	Pulse S 0	Yellow Toner Empty 0	Toner Collect
Take-Up 0	Elevator Motor Pulse Sensor 0	Black Toner Empty 0	Waste Toner 0
Vertical Transport S 0	Duplex	Cyan Toner Set 0	Toner Box Set 0
Paper Empty 0	Set 0	Magenta Toner Set 0	Fusing Unit
Main Tray Empty 0	Paperpassage 1 0	Yellow Toner Set 0	Set 0
Shift Tray Empty 0	Paperpassage 2 0	Black Toner Set 0	Fuser Roller Separation 0
Lower Over Run 0	Horizontal Trans. Unit Horizontal Transport 0		

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I/O Check

END

1 2 3 4 5

Sensors 3 / Single Staple Finisher

Exit(Non-sort1) 0	Empty(Elev.) 0	Shift Speed 0
Exit(Non-sort3) 0	Home(CD-Align) 0	
Exit(Finisher) 0	Home(Stap.Unit) 0	
Transport Upper 0	Home (Store roller) 0	
Transport Lower 0	Home (Exit roller) 0	
Full(Non-sort1) 0	Home(Stapler 1) 0	
Full(Non-sort3) 0	Empty St.1 Needle 0	
Full(Elev.Tray) 0	Self Priming S1 0	
Empty(Finisher) 0	Elevate Tray Raised/Lowered 0	
Surface(Elev.) 0	Home(Shift) 0	

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I/O Check

END

1 2 3 4 5

Sensors 4 / Center Staple Finisher

Entrance 0	Crease Clock 0	Stapler Safety SW 0	Punch Wastes 0
Paddle Home 0	Paper 0	Self Prime 0	Punch Timing 0
Bundle Roller Home 0	Paper Surface 0	Front Door 0	Punch Motor Clock 0
Align Home (Front) 0	Raised Position 0	Upper Door 0	Punch Home 0
Align Home (Back) 0	Lowered Position 0	Front Door SW 0	Punch Regist. Home 0
Alignment Tray 0	Clock 0	Rev. Remain 0	Horizontal Transport Doors 0
Exit Belt Home 0	Middle 0	Joint SW 0	
Crease Position 0	Slide Home 0	Punch Regist. S1 0	
Crease Tray 0	Stapler Home 0	Punch Regist. S2 0	
Crease Home 0	Needle 0	Punch Regist. S3 0	
Crease Roller Home 0	Stapler Connect. 0	Punch Regist. S4 0	

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I/O Check

END

1 2 3 4 5

Sensors 5

IR	Org. Detect Sensor 1 0
Home Sensor 0	Org. Detect Sensor 2 0
Org. Detect Sensor	Org. Detect Sensor 3 0
Org. Cover 0	Org. Detect Sensor 4 0
15 Degree Sensor 0	Org. Detect Sensor 5 0
	Org. Detect Sensor 6 0
	Org. Detect Sensor 7 0
	Org. Detect Sensor 8 0

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C. I/O Check List

(1) Sensors 1 (Main body, PC-101, C-201)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC14	1st Drawer	Set	Tray1 Set Sensor	In position	Out of position
PC2		Paper Empty	Tray1 Paper Empty Sensor	Paper not present	Paper present
PC13		Paper Near Empty	Tray1 Paper Near-Empty Sensor	Blocked	Unblocked
PC1		Double Feed	Tray1 Double Feed Sensor	Paper present	Paper not present
PC103	2nd Drawer	Set	Tray2 Set Sensor	In position	Out of position
PC106		Paper Empty	Tray2 Paper Empty Sensor	Paper not present	Paper present
PC104		Paper Near Empty	Tray2 Paper Near-Empty Sensor	Blocked	Unblocked
PC108		Vertical Trans-port S	Tray2 Vertical Transport Sensor	Paper present	Paper not present
PC107		Take-Up	Tray2 Paper Take-Up Sensor	Paper present	Paper not present
PC105		Upper Limit Sensor	Tray2 Lift-Up Sensor	At raised position	Not at raised position
PC112-PF	3rd Drawer	Set	Tray3 Set Sensor	In position	Out of position
PC115-PF		Paper Empty	Tray3 Paper Empty Sensor	Paper not present	Paper present
PC113-PF		Paper Near Empty	Tray3 Paper Near-Empty Sensor	Blocked	Unblocked
PC117-PF		Vertical Trans-port S	Tray3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PF		Take-Up	Tray3 Paper Take-Up Sensor	Paper present	Paper not present
PC114-PF		Upper Limit Sensor	Tray3 Lift-Up Upper Limit Sensor	At raised position	Not at raised position
PC121-PF	4th Drawer	Set	Tray4 Set Sensor	In position	Out of position
PC124-PF		Paper Empty	Tray4 Paper Empty Sensor	Paper not present	Paper present
PC122-PF		Paper Near Empty	Tray4 Paper Near-Empty Sensor	Blocked	Unblocked
PC126-PF		Vertical Trans-port S	Tray4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PF		Take-Up	Tray4 Paper Take-Up Sensor	Paper present	Paper not present
PC123-PF		Upper Limit Sensor	Tray4 Lift-Up Sensor	At raised position	Not at raised position

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC111	Manual	Multi FD Size1	Bypass FD Paper Size Sensor/1	ON	OFF
PC112		Multi FD Size2	Bypass FD Paper Size Sensor/2	ON	OFF
PC113		Multi FD Size3	Bypass FD Paper Size Sensor/3	ON	OFF
PC114		Multi FD Size4	Bypass FD Paper Size Sensor/4	ON	OFF
PC115		Lift-Up Position Sensor	Bypass Lift-Up Sensor	At raised position	Not at raised position
PC110		Paper Empty	Bypass Paper Empty Sensor	Paper not present	Paper present
PC28	Paper Pas-sage	Timing Roller	Synchronizing Roller Sensor	Paper present	Paper not present
PC30		Exit	Exit Sensor	Paper present	Paper not present
PC27		OHP Detect Sensor	OHP Sensor	OHP	Not OHP
PC4		Fuser Loop	Fusing Paper Loop Sensor	Loop present	Loop not present
PC10	PC Drive Detect	Color PC Drive Main Sensor	Color PC Drum Main Sensor	Blocked	Unblocked
PC35		Color PC Drive Sub Sensor	Color PC Drum Sub Sensor	Blocked	Unblocked
PC11		Black PC Drive Main Sensor	Bk PC Drum Main Sensor	Blocked	Unblocked
PC36		Black PC Drive Sub Sensor	Bk PC Drum Sub Sensor	Blocked	Unblocked

D. Sensors 2 (Main body, PC-401, AD-501)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC4-LCT	LCT	Lift-Up Upper Sensor	Tray Upper Limit Sensor	At raised position	Not at raised position
PC13-LCT		Lift-Up Lower Sensor	Tray Lower Position Sensor	At lower limit	Not at lower limit
PC12-LCT		Shift Tray Home Sensor	Shifter Home Position Sensor	At home	Out of home
PC11-LCT		Shift Tray Stop S	Shifter Return Position Sensor	At stop position	Not at stop position
PC1-LCT		Take-Up	Paper Feed Sensor	Paper present	Paper not present
PC2-LCT		Vertical Transport S	LCT Vertical Transport Sensor	Paper present	Paper not present
PWB-ELCT		Paper Empty	Paper Empty Board	Paper present	Paper not present
PC3-LCT		Main Tray Empty	Upper Paper Empty Sensor	Paper present	Paper not present
PC9-LCT		Shift Tray Empty	Shift Tray Paper Empty Sensor	Paper present	Paper not present
PC7-LCT		Lower Over Run	Lower Limit Sensor	Malfunction	Operational
UN1-LCT		Manual Button Down	Paper Descent Key	ON	OFF
PC14-LCT		Division Board Position S	Shift Gate Home Position Sensor	At home	Out of home
PC6-LCT		Cassette Open	Tray Set Sensor	In position	Out of position
PC8-LCT		Shift Motor Pulse S	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT		Elevator Motor Pulse Sensor	Elevator Motor Pulse Sensor	Blocked	Unblocked
PI2-DU	Duplex	Set	Duplex Unit Door Set Sensor	Close	Open
PI1-DU		Paper passage1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC1-DU		Paper passage2	Duplex Unit Transport Sensor 2	Paper present	Paper not present
PC1-HO	Horizontal Trans. Unit	Horizontal Transport	Paper Sensor	Paper not present	Paper present
PC6-HO		Paper Detect Reverse Sensor	Turnover Empty Sensor	Paper present	Paper not present

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/ Panel Display	
				1	0
PC17	Dev.	Cyan Toner Empty	Toner Near-Empty Sensor PQ/C	Toner not present	Toner present
PC16		Magenta Toner Empty	Toner Near-Empty Sensor PQ/M	Toner not present	Toner present
PC15		Yellow Toner Empty	Toner Near-Empty Sensor PQ/Y	Toner not present	Toner present
PC18		Black Toner Empty	Toner Near-Empty Sensor PQ/Bk	Toner not present	Toner present
PC19		Cyan Toner Set	Toner Set Sensor/C	Out of position	In position
PC26		Magenta Toner Set	Toner Set Sensor/M	Out of position	In position
PC25		Yellow Toner Set	Toner Set Sensor/Y	Out of position	In position
PC20		Black Toner Set	Toner Set Sensor/Bk	Out of position	In position
PC29	2nd Transfer	Transfer Unit Separation	2nd Image Transfer Pressure/ Retraction Sensor	Not Retracted	Retracted
PC12	Transfer Belt	Transfer Unit Separation	1st Image Transfer Retraction Position Sensor	Not Retracted	Retracted
PC31	Toner Collect	Waste Toner	Waste Toner Full Sensor	Blocked	Unblocked
PC32		Toner Box Set	Waste Toner Bottle Set Sensor	In position	Out of position
–	Fusing Unit	Set	Fusing Unit In-Position Detection Signal	In position	Out of position
PC33		Fuser Roller Separation	Fusing Pressure/Retraction Sensor	Not Retracted	Retracted

E. Sensors 3 (FS-501, JS-601)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC1-FN	Single Staple Finisher	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN		Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN		Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN		Transport Upper	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN		Transport Lower	Lower Entrance Sensor	Paper present	Paper not present
PC6-FN		Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN		Full (Non-sort3)	Job Tray Full Sensor	Paper present	Paper not present
PC7-FN		Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN		Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN		Surface (Elev.)	Elevator Tray Upper Limit Sensor	Paper present	Paper not present
PC8-FN		Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN		Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN		Home (Stap. Unit)	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN		Home (Store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked
PC13-FN		Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
–		Home (Stapler 1)	Stapler Home 1	Unblocked	Blocked
–		Empty St.1 Needle	Staple Empty 1	Unblocked	Blocked
–		Self Priming S1	Staple Self-priming 1	Unblocked	Blocked
S2-FN S3-FN		Elevate Tray Raised/Lowered	Elevator Tray Upper Limit Switch Elevator Tray Lower Limit Switch	ON	OFF
PC10-FN		Home (Shift)	Shift Home Position Sensor	Blocked	Unblocked
PC11-FN		Shift Speed	Shift Motor Pulse Sensor	Unblocked	Blocked

F. Sensors 4 (FS-601, PK-501)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PI1-FN	Center Staple Finisher	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN		Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN		Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN		Align Home (Front)	Front Aligning Plate Home Position Sensor	HP	
PI5-FN		Align Home (Back)	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN		Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN		Exit Belt Home	Exit Belt Home Position Sensor	HP	
PI10-FN		Crease Position	Folding Position Sensor	Paper present	Paper not present
PI13-FN		Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN		Crease Home	Folding Home Position Sensor	HP	
PI12-FN		Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN		Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN		Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN		Paper Surface	Exit Tray Home Position Sensor	Paper surface detected	
PI15-FN		Raised Position	Shift Upper Limit Sensor	Upper limit	
PI16-FN		Lowered Position	Shift Lower Limit Sensor	Lower limit	
PI17-FN		Clock	Shift Motor Clock Sensor		
—		Middle	—	Paper full	
PI18-FN		Slide Home	Slide Home Position Sensor		HP
PI19-FN		Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN		Needle	Staple Detecting Sensor	Staples loaded	No staple loaded
—		Stapler Connect.	—		Stapler connection detected
MS3-FN MS4-FN		Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	Open	
PI21-FN		Self Prime	Self-Priming Sensor		READY
PI22-FN		Front Door	Front Door Open Sensor		Open
PI23-FN		Upper Door	Upper Cover Open Sensor		Open

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
MS1-FN	Center Staple Finisher	Front Door SW	Front Door Open Sensor		Open
—		Rev. Remain	—		Paper horiz. side
MS2-FN		Joint SW	Joint Open Sensor		Open
1 —	Punch Unit	Punch Regist. S1	—		
—		Punch Regist. S2	—		
—		Punch Regist. S3	—		
—		Punch Regist. S4	—		
—		Punch Wastes	—	Punch trash full	
—		Punch Timing	—		
PI3P-PK		Punch Motor Clock	Punch Motor Clock Sensor	Blocked	
PI1P-PK		Punch Home	Punch Home Position Sensor	HP	
PI2P-PK		Punch Regist. Home	Side Registration Home Sensor	HP	
PC6-HO		Horizontal Transport Door S	Horizontal Unit Door Sensor	Blocked	Unblocked

G. Sensors 5 (Main body)

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display	
				1	0
PC201	IR	Home Sensor	Scanner Home Sensor	At home	Out of home
SW201	Org. Detect Sensor	Org. Cover	Size Reset Switch	Lowered	Raised
PC202		15 Degree Sensor	Original Cover Angle Sensor	Less than 15°	15° or more
PC203		Org. Detect Sensor 1	Original Size Detecting Sensor FD1	Original loaded,not mounted	Original not loaded
PC204		Org. Detect Sensor 2	Original Size Detecting Sensor FD2	Original loaded,not mounted	Original not loaded
PC204		Org. Detect Sensor 3	Original Size Detecting Sensor FD2	Original loaded,not mounted	Original not loaded
PC205		Org. Detect Sensor 4	Original Size Detecting Sensor FD3	Original loaded,not mounted	Original not loaded
PC205		Org. Detect Sensor 5	Original Size Detecting Sensor FD3	Original loaded,not mounted	Original not loaded
PC206		Org. Detect Sensor 6	Original Size Detecting Sensor CD1	Original loaded,not mounted	Original not loaded
PC206		Org. Detect Sensor 7	Original Size Detecting Sensor CD1	Original loaded,not mounted	Original not loaded
PC207		Org. Detect Sensor 8	Original Size Detecting Sensor CD2	Original loaded,not mounted	Original not loaded

4.12.2 Table

Functions	• To display the Vg/Vb output values calculated for the image density of the test pattern (amount of toner sticking) produced on the Transfer Belt during an AIDC detection sequence. • Reference values: C, M, Y Bk Vb: around 400 V, Vg: around 550 V
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• If the value is high, correct so that the image density becomes low. • If the value is low, correct so that the image density becomes high.

4.12.3 Level History1

Functions	• To display ATDC (T/C ratio), AIDC/Regist Sensor output values, and fusing temperature.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• AIDC-C/-M/-Y/-Bk : Shows the T/C output reading taken last. • AIDC1/AIDC2 : Shows the latest AIDC data. • Temp-Belt : Shows the latest Heating Roller temperature data. • Temp-Press. : Shows the latest Fusing Pressure Roller temperature data. "Reading taken last" means • Density of toner of the latest image • When a test print is produced by pressing the Start key while Level History 1 is being displayed.

4.12.4 Level History2

Functions	• AIDC Sensor (Transfer Belt bare surface level) as adjusted through the image stabilization sequence and ATVC value.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• AIDC Sensor: Shows the intensity adjustment value (0 to 255) of the AIDC Sensor. • ATVC (C, M, Y, Bk): Shows the first image transfer ATVC adjustment value (300 V to 3000 V). • ATVC (2nd): Shows the second image transfer ATVC adjustment value (300 V to 5000 V).

4.12.5 Temp. & Humidity

Functions	• To display the temperature and humidity of a specific location (AIDC Sensor portion) inside the machine and fusing temperature.
Use	• Used as reference information when a malfunction occurs.
Setting/ Procedure	• Machine interior temperature : 0 to 100 °C in 1 °C increments • Temperature on Fusing Belt side : 0 to 255 °C in 1 °C increments • Temperature on fusing pressure side : 0 to 255 °C in 1 °C increments • Machine interior humidity : 0 to 100 % in 1 % increments • Absolute humidity : 0 to 100 in 1 increments

4.12.6 CCD Check

Functions	• To display the D/A value of CCD clamp/gain for R, G, and B.
Use	• Used for troubleshooting for the CCD Sensor.
Setting/ Procedure	• Use the following guidelines on the correct range of values. CLAMP: The difference between the max. and min. output values should be within ±100. GAIN : The difference from the CLAMP values (R, B) should be within (90 for R and B. The difference from the CLAMP value (G) should be within ±50 for G. The difference between each pair of RO and RE, GO and GE, and BO and BE should be within 30.

4.12.7 Paper Passage

Functions	• To check for paper passage performance of the engine only without involving a print action on paper. • The counters do not count up.
Use	• When a paper misfeed or other fault occurs in the paper transport system.
Setting/ Procedure	• Select the paper source and press the Start key. • The sequence is halted when the Stop key is pressed or paper runs out.

4.12.8 Option Check

Functions	• To check the capacity of the add-on memory and mounting of a hard disk and a parallel I/F.
Use	• Use for check after an option has been installed.
Setting/ Procedure	• When an add-on memory is mounted, the machine automatically recognizes it and displays its capacity.

4.12.9 Color Shift

Functions	• To check each of C, M, Y, and Bk for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.
Use	• Use for check when color shift is evident.
Setting/ Procedure	• For each of C, M, Y, and Bk, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots • The shift amount is displayed with reference to Bk for C, M, and Y, and that for Bk is displayed with reference to an ideal position.

4.12.10 IU Lot No.

Functions	• To display the 10-digit lot number for each of C, M, Y, and Bk IUs. • The lot number data is stored in EEPROM of each IU.
Use	• Use for checking the IU Lot No.
Setting/ Procedure	• The IU lot number is displayed even with the Front Door opened; however, the display is blank, since the machine is unable to read the lot number when the Power Switch is turned ON with the Front Door open. Nonetheless, the lot number will be displayed when the Front Door is closed. (The engine obtains the IU lot number information when the Front Door is closed.)

4.12.11 LPH Status

Functions	• To check various information on each of the C, M, Y, and Bk LPHs
Use	• Use for checking the LPH Status.
Setting/ Procedure	• LPH Lot No.: LPH lot number (8 digits) • Average Exposure: Average light intensity • X: Print width accuracy • Y: Linearity accuracy • Z: Focus accuracy • FFT Rank: Print width rank • LPH Rank: 0 to 5 • If any one change is made from the default value as a result of LPH chip-to-chip corrections, an asterisk "⁎" is displayed beside the color identification (C, M, Y, and Bk) on the screen.

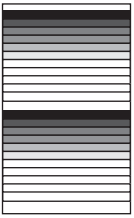
4.13 Settings in Test Print

- To check for image on the printer side by letting the machine produce various types of test pattern.
- The machine searches through the paper sources in the order of Tray2, Tray3, Tray4, and Tray1 for paper of the maximum size for printing.

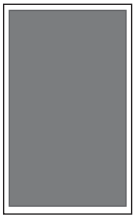
4.13.1 Procedure

1. Touch “Test Print” to display the Test Print menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

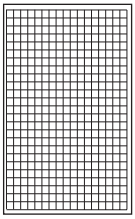
4.13.2 Gradation Pattern

Functions	• To produce a gradation pattern.
Use	• Used for checking gradation reproducibility.
Pattern	 4036fs3042c0 SINGLE HYPER Gradation Cyan
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Select the color mode. **Cyan**, Magenta, Yellow, Black (4PC), CMYBk, 8Color, 4Color, Black (1PC) • Black (4PC): Uses four colors. • Black (1PC): Uses one color of black.

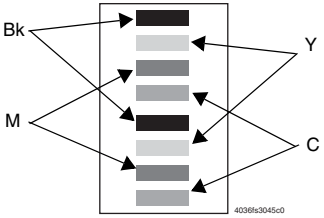
4.13.3 Halftone Pattern

Functions	• To produce a solid halftone pattern.
Use	• Used for checking uneven density and pitch noise.
Pattern	 4036fs3043c0 SINGLE HYPER Gradation Cyan Density: 255
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Select the color mode. **Cyan**, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYBk, 3 Color, 4 Color, Black (1PC), MIX • Type the density level (0 to **255**).

4.13.4 Lattice Pattern

Functions	• To produce a lattice pattern.
Use	• Used for checking fine line reproducibility and uneven density. • A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.
Pattern	 4036fs3044c0 SINGLE FEET Cyan CD Width : 5 FD Width : 5 Density: 255 Normal
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select **FEET** or HYPER. • Select Gradation or Resolution. (Only select HYPER) • Select the color mode. **Cyan**, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYBk, 3 Color, 4 Color, Black (1PC) • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to **255**). • Select **Normal** or Reverse.

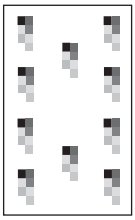
4.13.5 Solid pattern

Functions	• To produce each of the C, M, Y, and Bk solid patterns.
Use	• Used for checking reproducibility of image density.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Type the density level (0 to **255**).

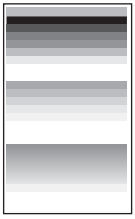
4.13.6 Color sample

Functions	• To produce a color sample.
Use	• Used for checking reproducibility of each of the different colors.
Pattern	 SINGLE HYPER Gradation
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Produce 12-gradation-level patches of C, M, Y, K, R, G, and B, and a patch of each of the 12 reference colors in the hue circle with lightness and saturation corrected.

4.13.7 8 Color Solid Pattern

Functions	• To produce an 8-color solid pattern.
Use	• Used for checking color reproducibility and uneven density of each color.
Pattern	 SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Type the density level (0 to **255**).

4.13.8 LPH Pattern

Functions	• To produce an LPH pattern.
Use	• Used for LPH chip-to-chip correction
Pattern	 SINGLE HYPER Gradation Border : OFF
Setting/ Procedure	• # of Print (**1** to 999) • Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution if HYPER has been selected. • Select to turn ON or **OFF** the Border Line.

4.14 ADF Check

☞ For details, see DF-601 Service Manual

4.14.1 Original Stop Position

Functions	• To make a manual adjustment of the document stop position and scanning position in each of the ADF modes.
Use	• When “Auto Adjust Stop Position” is NG.

4.14.2 Registration Loop

Functions	• To adjust the length of the loop to be formed in paper before the Registration Rollers.
Use	• When a document misfeed or skew occurs.

4.14.3 Auto Adjust Stop Position

A. FD 1-Sided

Functions	• Adjust the document stop position for the first side. • Check for skew.
Use	• Upon setup of the ADF

B. FD 2-Sided

Functions	• Adjust the document stop position for the second side.
Use	• Upon setup of the ADF

C. CD

Functions	• Adjust the start position for image scanning
Use	• Upon setup of the ADF

4.14.4 Paper Passage

Functions	• To check for paper passage through the ADF in each of the ADF modes.
Use	• Used for checking the document path for any abnormal condition when a document misfeed occurs.

4.14.5 I/O Check

Functions	• To check sensors on the paper path.
Use	• When a document misfeed occurs.

4.14.6 Tray Width Adjust

Functions	• To set the maximum and the minimum width for the width sensor.
Use	• When a document misfeed occurs. • When an original size is erroneously detected

4.14.7 Sensor Auto Adjust

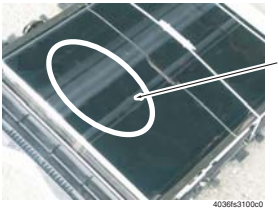
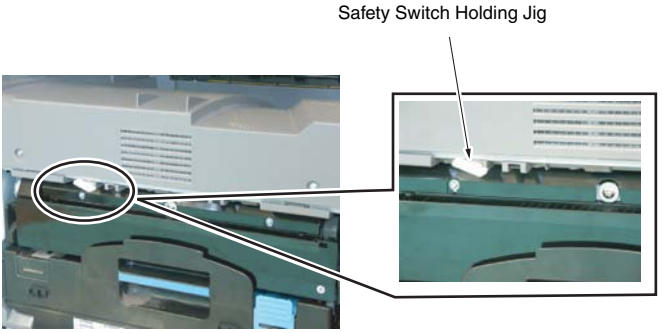
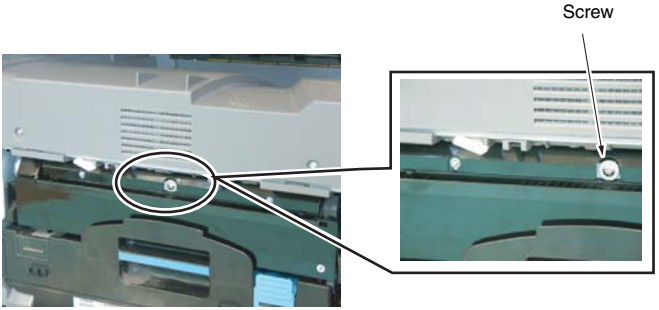
Functions	• To make an automatic adjustment of the sensor.
Use	• When a document misfeed occurs. • When the sensor is replaced.

4.15 Gradation Adjust

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the Scanner
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The Image Transfer Belt Unit has been replaced. ✻ The Adj. Values of Max. and Highlight shown on the Gradation Adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density. ✻ The closer the Conv. Value to 0, the more ideal the image.
Adjustment Specification	Max: 0 ± 100 Highlight: 0 ± 60
Adjustment Procedure	*1.* Touch “Gradation Adjust.” *2.* Press the Start key to let the machine produce a test pattern. *3.* Place the test pattern produced on the Original Glass. *4.* Place ten blank sheets of A3 paper on the test pattern and lower the Original Cover. *5.* Press the Start key. (The machine will then start scanning the test pattern.) *6.* Touch “OK” and repeat steps from 2 through 6 twice (a total of three times). *7.* Touch “Gradation Adjust” to display the Adj. Values and Conv. Values of each color (C, M, Y and Bk) for Max and Highlight. *8.* Use the following procedures to check the Conv. Value. **Max: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.** **If neither Max nor Highlight falls outside the ranges specified above: Perform steps from 2 to 6.** • If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Power Switch and perform Gradation Adjust once again. • If either Max or Highlight still remains outside the specified ranges perform PRT Max Density or PRT Highlight. • If a total of four sequences of Gradation Adjust do not bring the values into the specified range, check the image. • If the image is faulty, perform the troubleshooting procedures for image problems.

4.16 Miscellaneous Adjustments

4.16.1 Transfer Belt Refresh

Functions	• To turn the Transfer Belt idly
Use	• To refresh the surface of the Transfer Belt when filming occurs on the Transfer Belt 
Setting/ Procedure	*1.* From the Tech. Rep. mode, enter the Transfer Belt Refresh mode. *2.* Open the Left Cover and, using the Safety Switch Holding Jig, turn ON the Left Cover Switch.  *3.* Wait until predrive is completed. *4.* Loosen one screw completely and press the Belt Refresh Pad up against the Transfer Belt.  *5.* Press the Start key. *6.* After about 5 min., the Transfer Belt refresh sequence will be completed. *7.* Remove the Safety Switch Holding Jig. *8.* Tighten one screw and retract the Belt Refresh Pad from the Transfer Belt.

4.16.2 Transfer Belt Cleaning Bias

Functions	• To set the strength of the Transfer Belt cleaning bias
Use	• To change the Transfer Belt cleaning bias to the standard value when a Transfer Belt cleaning failure occurs due to overcurrent under high humidity conditions
Setting/ Procedure	• The default setting is “High.” **High** Std.

4.16.3 Transfer Belt Auto Cleaning

Functions	• To carry out a 1-min. cleaning sequence for every 1,000 printed pages (FD: 216 mm or less) after the power has been turned ON
Use	• To select “Disable” for Transfer Belt Auto Cleaning if the wait time of 1-min. cleaning sequence is to be eliminated
Setting/ Procedure	• The default setting is “Enable.” **Enable** Disable

4.16.4 AIDC Table Correction

Functions	• To set the upper limit value of Vb during the execution of the image stabilization sequence, thereby preventing part of the Photo Conductor surface from being left uncleaned due to filming
Use	• To select “Disable” for AIDC Table Correction if a higher density image is desired
Setting/ Procedure	• The default setting is “Enable.” **Enable** Disable • Enable: Sets the upper limit value for Vb • Disable: Does not set the upper limit value for Vb

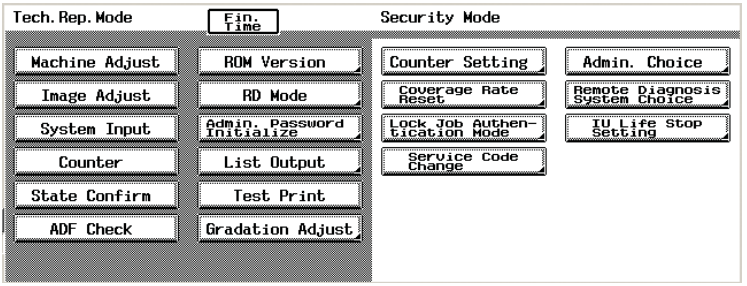
5. Security

5.1 Security Mode Function Setting Procedure

5.1.1 Procedure

1. Show the Tech. Rep. mode menu screen.
2. Press the following keys in this order.
   Stop → 9
3. Security Mode menu will appear.

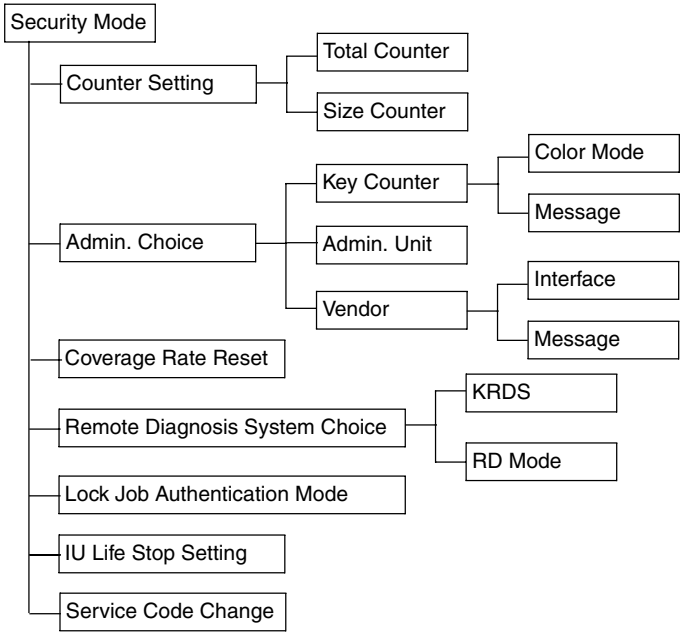
△1



5.1.2 Exiting

- Touch the “Fin. Time” key.

5.2 Security Mode Function Tree



△1

5.3 Settings in the Security Mode

5.3.1 Counter Setting

<table>
<tr><td>Functions</td><td>• To set the counting method for the Total Counter and Size Counter.</td></tr>
<tr><td>Use</td><td>• Use to change the counting method for the counters.</td></tr>
<tr><td>Setting/
Procedure</td><td>Total Counter
Mode 1: 1 Count per 1 copy cycle (Default: US, Others 4, Japan)
Mode 2: Double count-up according to paper size and copying mode
(Default: Europe, Others 1, Others 2, Others 3)</td></tr>
<tr><td></td><td>Size Counter
• Not counted (Default: US, Others 4, Japan)
• A3 and 11 × 17
• A3, B4, 11 × 17, and Legal (Default: Europe, Others 1, Others 2, Others 3)
• A3, B4, FLS, 11 × 17, 11 × 14, and Legal

✻ Count-up Table</td></tr>
</table>

Copying	1-Sided				2-Sided			
Size	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Mode	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts

5.3.2 Admin. Choice

Functions	• To set whether or not the Key Counter, Data Controller, and Vendor are installed.
Use	• Use to change the counting method for the administrative units.
Setting/ Procedure	Key Counter • Default setting: Unset • Select “Color Mode” and “Message” when the Key Counter is mounted. ✻ Color Mode • If “Mode 1” is selected for “Total Counter” Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle • If “Mode 2” is selected for “Total Counter,” “Sizes other than those specified” is selected for “Size Counter,” and the paper used is the specified size or one other than those specified Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle • If “Mode 2” is selected for “Total Counter,” “Sizes other than those specified” is selected for “Size Counter,” and the paper used is the specified size or one other than those specified Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle ✻ Message Select the message type when the administrative unit is mounted. Type 1: Message for Key Counter Type 2: Message for Card scanning Type 3: Message for ID management Type 4: Message for Remote SW
	Admin. Unit (Data Controller) • Default setting: Unset
⚠1	Vendor • Default setting: Unset • Select “Interface” and “Message” when the vendor is mounted. ✻ Interface Select the interface type when the vendor is mounted. Type 1: Coin Vendor is set Type 2: Not used ✻ Message Select the message type when the vendor is mounted. Type 1: Message for Coin Vendor Type 2: Message for Card Keeper Type 3: Message common to Coin Vendor and Card Keeper

5.3.3 Coverage Rate Reset

Functions	• To clear the coverage rate
Use	• Use to clear the coverage rate
Setting/ Procedure	• The default setting is No. Yes **No** • Pressing the END key will clear the coverage rate.

5.3.4 Remote Diagnosis System Choice

Functions	• To select the Remote Diagnosis System
Use	• Use to switch to the RD mode.
Setting/ Procedure	• The default setting is KRDS. **KRDS** RD Mode

5.3.5 Lock Job Authentication Mode

Functions	• To select the authentication mode for lock jobs Mode 1: Unlock only the document selected Mode 2: Unlock all documents, for which there is coincidence in the password.
Use	• Use to change the mode to Mode 2.
Setting/ Procedure	The default setting is Mode 1. **Mode 1** Mode 2

5.3.6 IU Life Stop Setting

Functions	• To select whether or not to stop a print cycle when the IU reaches its service life
Use	• Use to select not to stop the print cycle when the IU reaches its service life.
Setting/ Procedure	The default setting is Stop. **Stop** Not Stop

5.3.7 Service Code Change

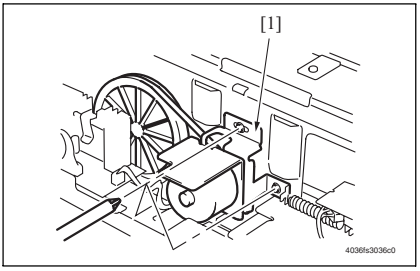
Functions	• To change the service code used to enter the Tech. Rep. mode.
Use	• Use to change the service code.
Setting/ Procedure	• Enter the new service code from the 10-Key Pad. 8 digits (0 to 9) Current Service Code : Enter the service code currently used. New Service Code : Enter the service code to be newly used. Retype New Code : Enter the new service code a second time. **NOTES** **• The new service code is validated when you quit the Tech. Rep. mode after the service code change procedure.** **• NEVER forget the service code. When forgetting the service code, call responsible person of Konicaminolta.**

6. Mechanical adjustment

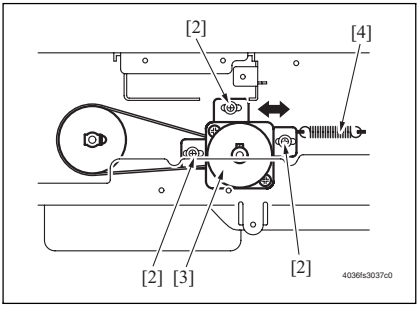
6.1 Adjustment of the Scanner Motor Timing Belt

This adjustment must be made in the following case:
- **The Scanner Motor Assy has been removed.**
- **The Scanner Drive Cables have been rewound.**

1. Remove the IR Rear Cover.
2. Remove 16 screws and the reinforcement frame.



3. Loosen the three screws that secure the Scanner Motor mounting bracket [1].

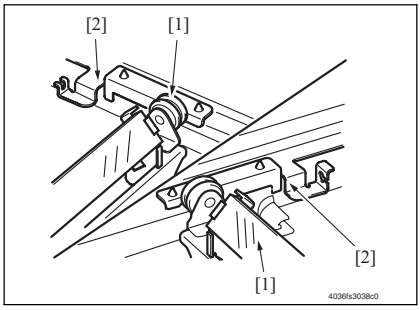


4. With the Scanner drive gear set screw [2] located on the right-hand side as shown on the left, slide the Scanner Motor Assy [3] to the left and check that it is returned to the original position by the tension of the spring [4]. Perform this step three times.
5. Tighten the three screws [2] to fix the Scanner Motor Assy into position.

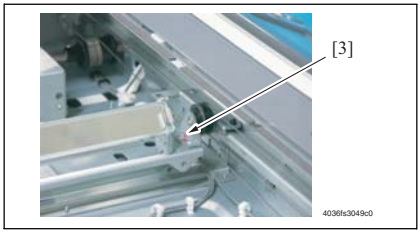
6.2 Focus Positioning of the Scanner and Mirrors Unit

This adjustment must be made in the following case:

- **The Scanner Drive Cables have been rewound**



1. Slide the Mirrors Unit [1] to the center until it is pressed up against the cutouts in the rails [2].

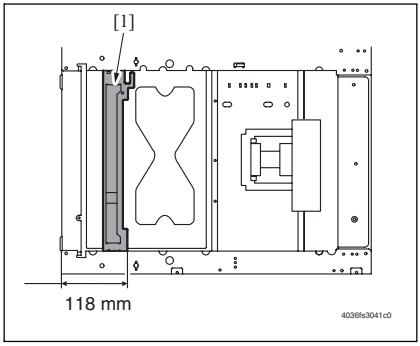


2. If the Mirrors Unit is not pressed up against the cutouts, loosen the adjusting screw (to which red paint is applied) [3] of the Mirrors Unit and press the carriage up against the cutouts. Then, tighten the adjusting screw.

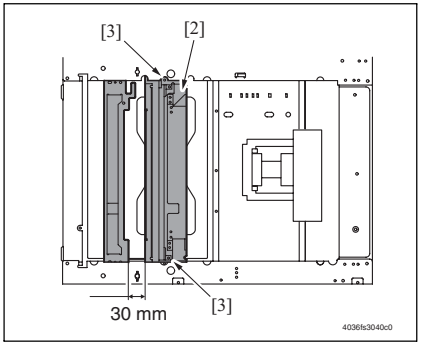
6.3 Scanner Position Adjustment

This adjustment must be made in the following case:

- **The Scanner Drive Cables have been rewound.**
- **Focus Positioning of the Scanner and Mirrors Unit must be completed.**



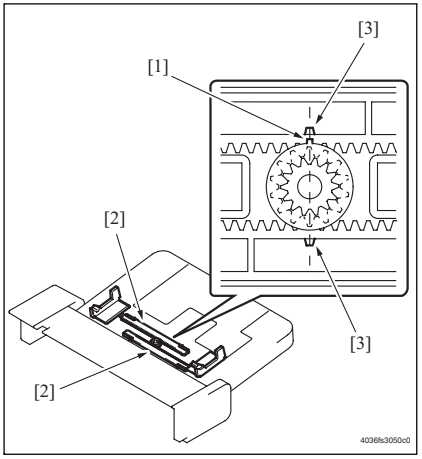
1. Slide the Mirrors Unit [1] to the position shown on the left.



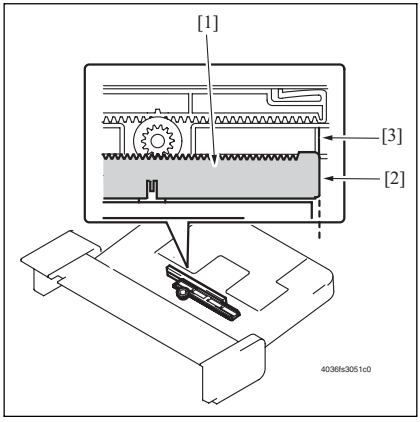
2. Secure the Scanner [2] in the position shown on the left using the two Scanner positioning screws [3].
3. Make the FD-Mag. adjustment.
☞ 2-53

6.4 Adjustment of the Bypass Paper Size Unit

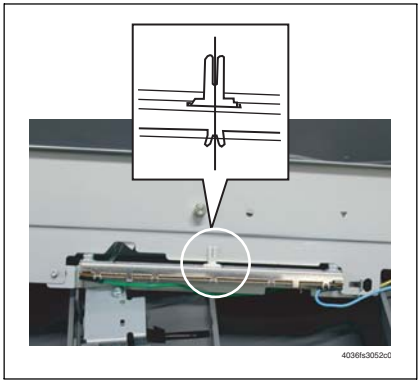
This adjustment must be made in the following case:
- **The Bypass Paper Size Unit has been removed.**



1. Install the gear so that the protrusion of the gear [1] and the mark [3] on the Bypass Guide Rack Gear [2] are aligned in a straight line.



2. Install the Bypass Unit Cover so that part A (edge) [2] of the Rack Gear [1] for the Bypass Paper Size Unit and part B [3] of the Bypass Unit Cover are aligned in a straight line.



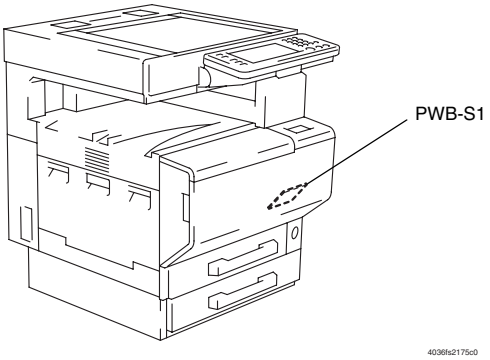
3. When the Bypass Paper Size Unit base is mounted, align the lever position of the Bypass Paper Size Unit with the tab at the center in a straight line.

4. After the Bypass Paper Size Unit base has been mounted, check that the lever of the Bypass Paper Size Unit moves smoothly in a manner operatively connected to the Bypass Guide.
5. Call the Tech. Rep. Mode to the screen and select “Machine Adjust” → “Bypass Guide Adjust.” Then, carry out “Bypass Guide Adjust.”

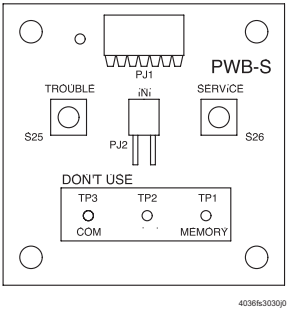
☞ 2-61

7. Board switch

7.1 PWB Location



7.2 PWB-S1 (Tech. Rep. Setting Switches Board)



Symbol	Name	Description
INI	Initialize Point	Resets a paper misfeed, malfunction, and erratic display.
MEMORY	Not Used	
COM	Not Used	
TROUBLE	Trouble Reset Switch	Resets the following malfunction displays: Exposure Lamp system (C04XX), Fusing system (C05XX), Scanner system (C06XX), ROM contents failure detected upon start.
SERVICE	Not used	

7.2.1 Initialize Procedure

1. Turn OFF the Power Switch.
2. With the circuit across pins of PJ2 closed, turn ON the Power Switch.
3. In about 5 sec., open the PJ2 circuit.
4. Check that the message “Initialize Completed” is displayed on the Touch Panel and then touch “END.”

⚠1 7.2.2 Memory Clear Procedure

1. Call the Tech. Rep. Mode to the screen.

☞ 3-40

2. Press the following keys in this order: Stop → 9
3. Security Mode menu will appear.
4. Press the following keys in this order: Stop → 0 → Stop → 1
5. Touch the “Memory Clear” key.
6. Touch the “Enable” key and touch the “OK” key.

7.2.3 If the machine exhibits an erratic display or operation.

1. Turn OFF and ON the Power Switch.
1. Unplug and plug in the power cord.
2. Initialize the machine.
3. Memory Clear the machine.

- **Do not perform Memory Clear casually, as it clears the types of data mentioned above. If Memory Clear has been performed, be sure to make settings for the functions that have been cleared once again.**

7.2.4 Data/Conditions Cleared by Reset Switches/Pins

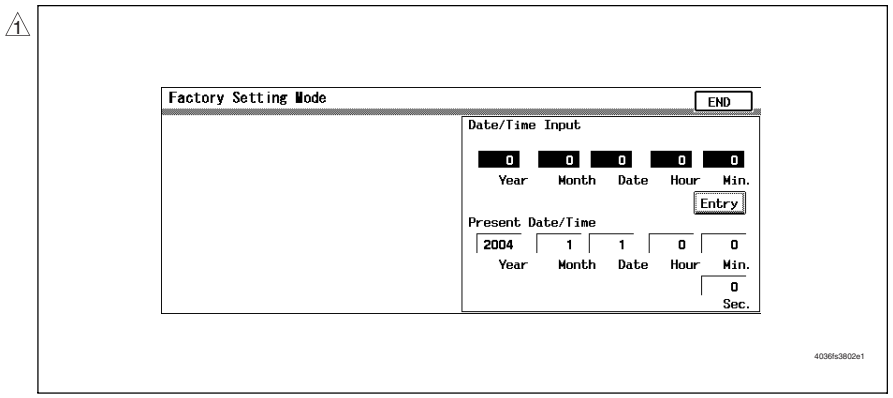
Clearing Method / Data Cleared		Front Door Open/Close	Trouble Reset Switch	Initialize	Memory Clear
Misfeed display		❍	—	❍	❍
Malfunction display	Fusing Optical Scanner C3FFX	—	❍	❍	❍
	Others	❍	❍	❍	❍
Erratic operation/display		—	❍	❍	❍
Utility Mode (Store, User’s Choice:1, 2, Admin. Code)		—	—	—	❍
Tech. Rep. Mode (System Input)		—	—	—	❍
Security Mode (Counter Setting)		—	—	—	❍
Touch Panel Correction Mode		—	—	—	❍

❍: Cleared —: Not cleared

8. Date/Time input mode

- This mode is used to set time-of-day and date.

8.1 Date/Time input mode screen



8.2 Date/Time input mode setting procedure

<Procedure>

1. Press the following keys in this order.
   Stop → 1 → 1 → 4 → 4 → Clear
2. Enter the 8-digit servicecode and touch “Enter.” (The default value is “00000000.”)
3. Enter year, month, day, hour, and minute, in that order, from 10-key Pad.
4. Make sure that correct figures have been entered and then touch “OK.”

NOTE

- **When setting the month, day, hour, or minute, enter “0” first if the data one digit.**

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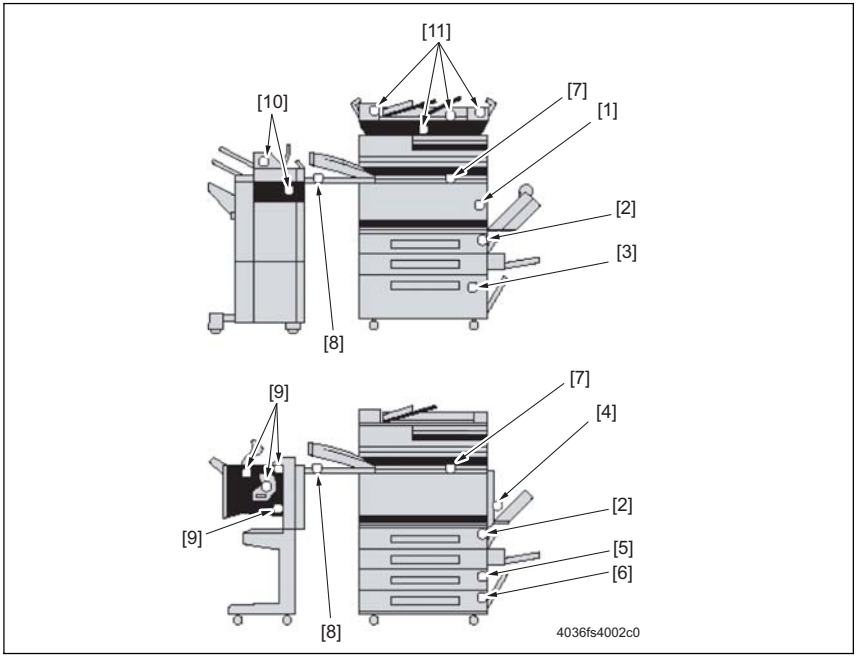
IV Troubleshooting

1. Jam Display

1.1 Misfeed Display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the Touch Panel of the copier.



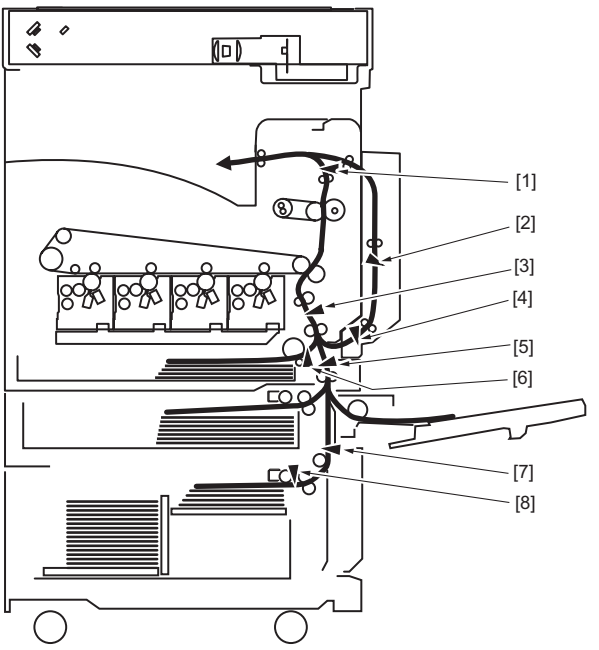
Display	Misfeed Location	misfeed processing location	Action
[1]	1st Drawer take-up, 2nd Image Transfer, Fusing	Right Door	☞ 4-5
[2]	2nd Drawer take-up, Vertical Transport	2nd Drawer Right Door	☞ 4-6
	Manual Bypass take-up	Manual Bypass Slide Board	
[3]	LCT take-up, Vertical Transport	LCT Right Door	☞ 4-8
[4]	Duplex Unit transport	Duplex Unit Right Door	☞ 4-11
[5]	3rd Drawer take-up, Vertical Transport	Paper Feed Unit Right Door	☞ 4-9
[6]	4th Drawer take-up, Vertical Transport		☞ 4-10
[7]	Exit	Right Door	☞ 4-12
[8]	Horizontal transport	Horizontal transport cover	☞ FS-501 ☞ FS-601
[9]	Finisher FS-601	Finisher Door	☞ FS-601
[10]	Finisher FS-501	Finisher Door	☞ FS-501
[11]	Document Feeder DF-601	Document Feeder Door	☞ DF-601

1.1.1 Misfeed Display Resetting Procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.2 Sensor layout

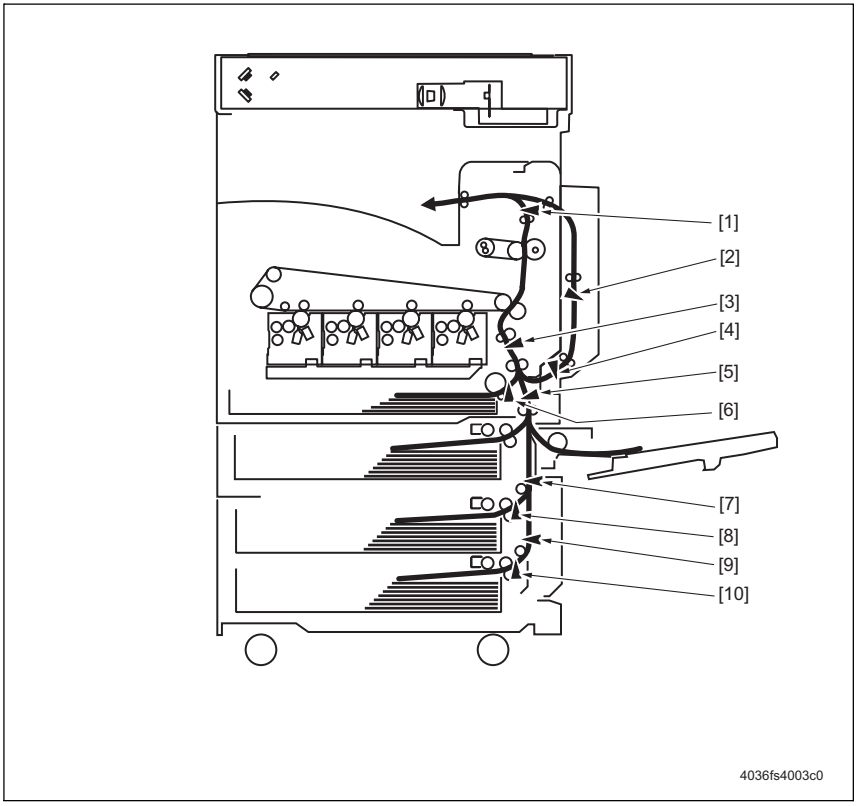
1.2.1 System Mounted with AD-501 and PC-401.



[1]	Exit Sensor	PC30	[5]	Tray2 Vertical Transport Sensor	PC108
[2]	Duplex Unit Transport Sensor 1	PI1-DU	[6]	Tray1 Double Feed Sensor	PC1
[3]*1	Synchronizing Roller Sensor	PC28	[7]	LCT Vertical Transport Sensor	PC2-LCT
[3]*1	OHP Sensor	PC27	[8]	LCT Paper Feed Sensor	PC1-LCT
[4]	Duplex Unit Transport Sensor 2	PC1-DU			

*1: Two different types of sensors are located in the area near [3].

1.2.2 System Mounted with AD-501 and PC-201.



[1]	Exit Sensor	PC30	[6]	Tray1 Double Feed Sensor	PC1
[2]	Duplex Unit Transport Sensor 1	PI1-DU	[7]	Tray3 Vertical Transport Sensor	PC117-PF
[3]*1	Synchronizing Roller Sensor	PC28	[8]	Tray3 Paper Take-Up Sensor	PC116-PF
[3]*1	OHP Sensor	PC27	[9]	Tray4 Vertical Transport Sensor	PC126-PF
[4]	Duplex Unit Transport Sensor 2	PC1-DU	[10]	Tray4 Paper Take-Up Sensor	PC125-PF
[5]	Tray2 Vertical Transport Sensor	PC108			

*1: Two different types of sensors are located in the area near [3].

1.3 Solution

1.3.1 Initial Check Items

- When a paper misfeed occurs, first make checks of the following initial check items

Check Item	Action
Does paper meet product specifications?	Change paper.
Is paper curled, wavy, or damp.	Change paper. Instruct user in correct paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or change the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at correct position to accommodate paper?	Set as necessary.
Are actuators found operational as checked for correct operation?	Correct or change the defective actuator.

1.3.2 1st Drawer take-up, Fusing Misfeed

A. Detection Timing

Type	Description
2nd Image Transfer, Fusing misfeed detection	The leading edge of the paper does not block the Exit Sensor (PC30) even after the lapse of a given period of time after the Synchronizing Roller Clutch has been energized.
	The Synchronizing Roller Sensor (PC28) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
1st Drawer take-up misfeed detection	The leading edge of the paper does not block the Synchronizing Roller Sensor (PC28) even after the lapse of a given period of time after the 1st Drawer Paper Take-Up Clutch (CL1) has been energized.
Misfeed detected as a result of delayed deactivation of sensor	The Synchronizing Roller Sensor (PC28) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in 2nd Image Transfer	The Synchronizing Roller Sensor (PC28) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The OHP Sensor (PC27) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Detection of paper left in 1st Drawer	Tray 1 Double Feed Sensor (PC1) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Tray 1 Double Feed Sensor (PC1) Synchronizing Roller Sensor (PC28) Exit Sensor (PC30) OHP Sensor (PC27) Synchronizing Roller Clutch (CL3) 1st Drawer Paper Take-Up Clutch (CL1)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1 I/O check, Sensor check	PWB-MC PJ14MC-7B (ON)	K-7
3	PC28 I/O check, Sensor check	PWB-MC PJ12MC-6A (ON)	R-2
4	PC30 I/O check, Sensor check	PWB-MC PJ12MC-12 (ON)	S-2
5	PC27 I/O check, Sensor check	PWB-MC PJ12MC-2 (ON)	R-2
6	CL3 operation check	PWB-MC PJ12MC-13 (ON)	S-2
7	CL1 operation check	PWB-MC PJ14MC-10B (ON)	L-7
8	Change PWB-MC	—	—

1.3.3 2nd Drawer take-up, Vertical Transport, Manual Bypass take-up

A. Detection Timing

Type	Description
2nd Drawer take-up, Vertical Transport misfeed detection	The leading edge of the paper does not block the Tray2 Vertical Transport Sensor (PC108) even after the lapse of a given period of time after the Tray2 Paper Feed Motor has been energized.
	The Synchronizing Roller Sensor (PC28) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray2 Vertical Transport Sensor (PC108).
Misfeed detected at Bypass	The leading edge of the paper does not block the Tray2 Vertical Transport Sensor (PC108) even after the lapse of a given period of time after the Bypass Paper Feed Clutch has been energized.
Paper left at Tray2 or Bypass	Tray2 Vertical Transport Sensor (PC2) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Paper left at Tray2	Tray2 Paper Take-Up Sensor (PC107) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray2 Vertical Transport Sensor (PC108) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

2nd Drawer take-up, Vertical Transport

Relevant Electrical Parts	
Tray2 Paper Take-Up Sensor (PC107) Tray2 Vertical Transport Sensor (PC108) Synchronizing Roller Sensor (PC28) Tray2 Paper Feed Motor (M102)	Tray2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC107 I/O check, Sensor check	PWB-Z PJ6Z-8 (ON)	2-X
3	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	2-Y
4	PC28 I/O check, Sensor check	PWB-MC PJ12MC-6 (ON)	2-R
5	M102 operation check	PWB-Z PJ5Z-1 ~ 4	2-V
6	Change PWB-Z	—	—

Manual Bypass take-up

Relevant Electrical Parts	
Tray2 Vertical Transport Sensor (PC108) Bypass Paper Feed Clutch (CL101)	Tray2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC108 I/O check, Sensor check	PWB-Z PJ6Z-11 (ON)	2-Y
3	CL101 operation check	PWB-Z PJ7Z-14B (ON)	2-C
4	Change PWB-Z	—	—

1.3.4 LCT Take-up and Vertical Transport Misfeed (PC-401)

A. Detection Timing

Type	Description
Misfeed detected at LCT take-up or Vertical Transport Section	The leading edge of the paper does not block the LCT Transport Roller Motor (PC2-LCT) even after the lapse of a given period of time after the Paper Feed Motor has been energized.
	The Tray2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the paper has blocked the LCT Transport Roller Motor (PC2-LCT).
Paper left at LCT	The LCT Vertical Transport Sensor (PC2-LCT) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Paper Feed Sensor (PC1-LCT) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray2 Vertical Transport Sensor (PC108) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Paper Feed Sensor (PC1-LCT) LCT Vertical Transport Sensor (PC2-LCT) Tray2 Vertical Transport Sensor (PC108) Paper Feed Motor (M1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC1-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-2	PC-401 6-C
3	PC2-LCT I/O check, Sensor check	PWB-C1 LCT PJ5C1 LCT-5	PC-401 6-C
4	PC108 I/O check, Sensor check	PWB-MC PJ12MC-6A (ON)	2-R
5	M1-LCT operation check	PWB-C1 LCT PJ6C1 LCT-1 ~ 4	PC-401 6-D
6	Change PWB-C1 LCT	—	—

1.3.5 Tray3 Take-up and Vertical Transport Misfeed (PC-101/PC201)

A. Detection Timing

Type	Description
Misfeed detected at Tray3 take-up or Vertical Transport Section	The leading edge of the paper does not block the Tray3 Vertical Transport Sensor (PC117-PF) even after the lapse of a given period of time after the Tray3 Paper Feed Motor has been energized.
	The Tray2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray3 Vertical Transport Sensor (PC117-PF).
Paper left at Tray3	The Tray3 Vertical Transport Sensor (PC117-PF) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray3 Paper Take-Up Sensor (PC116-PF) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray3 Vertical Transport Sensor (PC117-PF) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Tray3 Paper Take-Up Sensor (PC116-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray2 Vertical Transport Sensor (PC108) Tray3 Paper Feed Motor (M122-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC116-PF I/O check, Sensor check	PWB-C2 PF PJ6C2 PF-8	PC-201 3-F
3	PC117-PF I/O check, Sensor check	PWB-C2 PF PJ6C2 PF-11	PC-201 3-F
4	PC108 I/O check, Sensor check	PWB-MC PJ12MC-6A (ON)	2-E
5	M122-PF operation check	PWB-C2 PF PJ5C2 PF-1 ~ 4	PC-201 3-E
6	Change PWB-C2 PF	—	—

1.3.6 Tray4 Take-up and Vertical Transport Misfeed (PC201)

A. Detection Timing

Type	Description
isfeed detected at Tray4 take-up or Vertical Transport Section	The leading edge of the paper does not block the Tray4 Vertical Transport Sensor (PC126-PF) even after the lapse of a given period of time after the Tray4 Paper Feed Motor has been energized.
	The Tray3 Vertical Transport Sensor (PC117-PF) is not blocked even after the lapse of a given period of time after the paper has blocked the Tray4 Vertical Transport Sensor (PC126-PF).
Paper left at Tray4	The Tray4 Vertical Transport Sensor (PC126-PF) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray4 Paper Take-Up Sensor (PC125-PF) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	The Tray4 Paper Take-Up Sensor (PC125-PF) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

B. Action

Relevant Electrical Parts	
Tray4 Paper Take-Up Sensor (PC125-PF) Tray4 Vertical Transport Sensor (PC126-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray4 Paper Feed Motor (M123-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC125-PF I/O check, Sensor check	PWB-C2 PF PJ10C2 PF-8	PC-201 8-D
3	PC126-PF I/O check, Sensor check	PWB-C2 PF PJ11C2 PF-2	PC-201 8-E
4	PC117-PF I/O check, Sensor check	PWB-C2 PF PJ6C2 PF-11	PC-201 3-F
5	M123-PF operation check	PWB-C2 PF PJ9C2 PF-1 ~ 4	PC-201 8-F
6	Change PWB-C2 PF	—	—

1.3.7 Duplex Transport Misfeed (AD-501)

A. Detection Timing

Type	Description
Misfeed detected at Duplex Transport Section	The Synchronizing Roller Sensor (PC28) is not blocked even after the lapse of a given period of time after a Duplex paper take-up sequence has been started.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not blocked even after the lapse of a given period of time after the paper has blocked the Duplex Unit Transport Sensor 1 (PI1-DU).
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Paper left at Duplex Transport Section	Duplex Unit Transport Sensor 1 (PI1-DU) or Duplex Unit Transport Sensor 2 (PC1-DU) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Synchronizing Roller Sensor (PC28) Duplex Unit Transport Sensor 1 (PI1-DU) Duplex Unit Transport Sensor 2 (PC1-DU) Switchback Motor (M1-DU) Duplex Unit Transport Mortor (M2-DU)	Duplex Control Board (PWB-A DU) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC28 I/O check, Sensor check	PWB-MC PJ12MC-6A (ON)	2-R
3	PI1-DU I/O check, Sensor check	—	AD-501 8-D
4	PC1-DU I/O check, Sensor check	—	AD-501 8-D
5	M1-DU operation check	PWB-A DU PJ3A-1~4	AD-501 8-D
6	M2-DU operation check	PWB-A DU PJ2A-1~4	AD-501 8-D
7	Change PWB-A DU	—	—
8	Change PWB-MC	—	—

1.3.8 Fusing/Exit Misfeed

A. Detection Timing

Type	Description
Misfeed detected at Fusing/Exit Section	PC10 is not unblocked even after the lapse of a given period of time after the paper has blocked the Exit Sensor (PC30).
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not blocked even after the lapse of a given period of time after the Exit Sensor (PC30) has been unblocked by the paper during a switchback sequence.
Paper left at Duplex Transport Section	Exit Sensor (PC30) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Exit Sensor (PC30) Duplex Unit Transport Sensor 1 (PI1-DU)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	—	—
2	PC30 I/O check, Sensor check	PWB-MC PJ12MC-12A (ON)	S-2
3	PI1 I/O check, Sensor check	—	AD-501 8-D
4	Change PWB-MC	—	—

2. Malfunction code

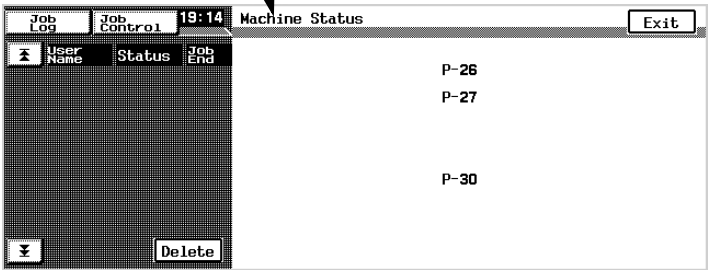
2.1 Restarting

- This machine automatically performs a restarting sequence if a minor fault that would not damage the machine occurs during operation.
- No screen information is given for the restarting sequence.
- On completing the restarting sequence, the machine restores its operation to its ordinary condition.

2.2 Alert code

- The copier's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.

- Touching the maintenance call mark will display the corresponding warning code on the State Confirm screen.



2.2.1 Alert list

- If an image stabilization or Scanner fault occurs, the corresponding warning code appears.

Code	Item	Description
S-1	CCD clamp gain adjustment failure	• It is detected that the CCD clamp gain adjustment value is faulty.
P-5	AIDC Sensor (Front) failure	• The output from the photoreceiver of the AIDC Sensor that takes a reading of a point of a bare surface on the Transfer Belt is 4.3 V or more during an adjustment of the AIDC Sensor. • The output from the photoreceiver of the AIDC Sensor that takes a reading of a point in a toner pattern on the Transfer Belt is 1.0 V or less after the adjustment has been completed.
P-28	AIDC Sensor (Back) failure	
P-6	Cyan Imaging Unit failure	• All density readings taken from the density pattern produced on the Transfer Belt are 0.5 g/m^2 (AIDC Sensor photoreceiver output) or less during max. density adjustment (Vg/Vb adjustment).
P-7	Magenta Imaging Unit failure	
P-8	Yellow Imaging Unit failure	
P-9	Black Imaging Unit failure	
P-21	Color Shift Test Pattern failure	• The number of points detected in the CD direction is more or less than the specified value during CD registration correction. • The number of points detected in the FD direction is more or less than the specified value during FD registration correction.
P-22	Color Shift Test Pattern failure	• The color shift amount is greater than the specified range during CD registration correction. • The color shift amount is greater than the specified range during FD registration correction. • The skew correction amount is greater than the specified value.
P-26	ATVC (Bk) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of Black.
P-27	ATVC (2nd) failure	• An abnormal average value is detected during an adjustment of the second image transfer ATVC value.
P-29	ATVC (color) failure	• An abnormal average value is detected during an adjustment of the first image transfer ATVC value of color.
P-30	Color PC Drum Main Sensor malfunction	• The output from the Color PC Drum Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the Color PC Drum Motor is turning stably and the Lock signal is active (LOW-0).
P-31	Bk PC Drum Main Sensor malfunction	• The output from the Color PC Drum Main and Sub Sensors remains unchanged for a continuous period of 1,000 ms while the Bk PC Motor is turning stably and the Lock signal is active (LOW-0).

2.3 Solution

2.3.1 S-1 : CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action
1	Correct the harness connection between PWB-A and PWB-C if faulty.
2	Check for possible extraneous light and correct as necessary.
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.
5	Change PWB-A.
6	Change PWB-C.

2.3.2 P-5: AIDC Sensor (Front) failure

2.3.3 P-28 AIDC Sensor (Back) failure

Relevant Electrical Parts	
AIDC / Registration Sensor /1 (PC8) AIDC / Registration Sensor /2 (PC9)	Control Board (PWB-MC) Image Transfer Belt Unit

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.
3	Reinstall or reconnect PC8 or PC9 if it is installed or connected improperly.
4	Clean PC8 or PC9 if it is dirty
5	Open and close the Left Door, run an image stabilization sequence, and select “State Confirm” → “Level History 1” to check the AIDC value. AIDC1: PC8, AIDC2: PC9 If the value is 1.0 V or less, change PC8 or PC9.
6	Change PWB-MC

2.3.4 P-6: Cyan Imaging Unit failure

2.3.5 P-7: Magenta Imaging Unit failure

2.3.6 P-8: Yellow Imaging Unit failure

2.3.7 P-9: Black Imaging Unit failure

Relevant Electrical Parts	
Imaging Unit C Imaging Unit M Imaging Unit Y Imaging Unit Bk	Image Transfer Belt Unit

Step	Action
1	Select “Image Adjust” → “PRT Max Density” and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the Imaging Unit and correct as necessary.
3	Clean the AIDC Sensor window if dirty
4	Clean the contact of the Imaging Unit connector if dirty
5	Change Imaging Unit.
6	Change the Image Transfer Belt Unit.

2.3.8 P-21: Color Shift Test Pattern failure

Relevant Electrical Parts	
Image Transfer Belt Unit	

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.

2.3.9 P-22: Color Shift Adjust failure

Relevant Electrical Parts	
AIDC / Registration Sensor /1 (PC8)	AIDC / Registration Sensor /2 (PC9)

Step	Action
1	Check the LED retraction lever for locked position and, if there is any faulty condition evident, slide out the Imaging Unit and reinstall it in position.
2	Reinstall or reconnect PC8 or PC9 if it is installed or connected improperly.
3	Check the Vertical Transport Guide for installed position and correct as necessary.

2.3.10 P-26 : 1st image transfer ATVC (Black) failure

2.3.11 P-27 : 2nd image transfer ATVC failure

2.3.12 P-29 : 1st image transfer ATVC (Color) failure

Relevant Electrical Parts	
High Voltage Unit/2 (HV2) Control Board (PWB-MC)	Image Transfer Belt Unit

Step	Action
1	Check the contact of the Transfer Belt Unit and that of HV2 for connection and clean or correct the contact as necessary.
2	Change the Image Transfer Belt Unit.
3	Change HV2.
4	Change PWB-MC.

2.3.13 P-30: Color PC Drum Sensor malfunction

Relevant Electrical Parts	
Color PC Drum Main Sensor (PC10) Color PC Drum Sub Sensor (PC35)	Control Board (PWB-MC)

Step	Action
1	Reinstall or reconnect PC10 or PC35 if it is installed or connected improperly.
2	Clean PC10 or PC35 if it is dirty
3	Open and close the Left Door to reset the fault.
4	If P-30 occurs again, change PC10 or PC35.
5	Change PWB-MC.

2.3.14 P-31: Black PC Drum Sensor malfunction

Relevant Electrical Parts	
Bk PC Drum Main Sensor (PC11) Bk PC Drum Sub Sensor (PC36)	Control Board (PWB-MC)

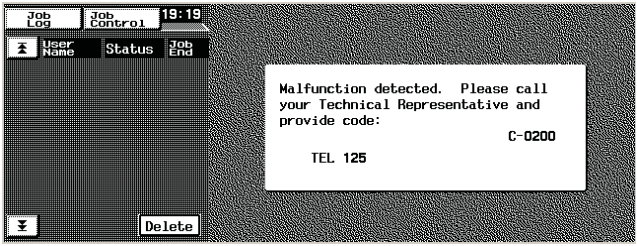
Step	Action
1	Perform the faulty sensor check procedure *1.
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-31 persists, change the sensor which was found faulty.
5	Change PWB-MC.

*1: Faulty sensor check procedure

1. Open the Front Door and turn ON the Power Switch of the machine.
2. Call the “I/O Check” screen to the screen by way of Tech. Rep. Mode.
3. Close the Front Door and start “Stabilizer.”
4. During the Stabilizer sequence, check to see if the values of the phase detection sensors (Color PC Drum Main/Sub and Bk PC Drum Main/Sub Sensors) change.
5. A sensor is faulty if its value does not change.

2.4 Trouble code

- The copier's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the Touch Panel.



2.4.1 Trouble code list

* For the details of the malfunction codes of the options, see the Service Manual for the corresponding option.

Code	Item	Description
C0000	Main Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.
C0001	Main Motor turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.
C0016	Bk PC Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.
C0017	Bk PC Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.
C0018	Color PC Drum Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.
C0019	Color PC Drum Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.
C001A	Color Developing Motor's failure to turn	• The Motor Lock signal remains HIGH for a predetermined continuous period of time while the Motor is turning.
C001B	Color Developing Motor's turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.

Code	Item	Description
C0040	Suction Fan Motor's failure to turn	• The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Motor remains stationary.
C0046	Fusing Cooling Fan Motor/1 failure to turn	
C0048	Fusing Cooling Fan Motor/1 or Fusing Cooling Fan Motor/2 failure to turn	
C004C	Ozone Ventilation Fan Motor's failure to turn	
C004D	Toner Suction Fan Motor's failure to turn	
C004E	Power Supply Cooling Fan Motor's failure to turn	
C004F	Cooling Fan Motor 2's failure to turn	
C0060	Fusing Drive Motor's failure to turn	
C0061	Fusing Drive Motor turning at abnormal timing	• The Motor Lock signal remains LOW for a predetermined continuous period of time while the Motor remains stationary.
C0094	2nd Image Transfer Roller pressure/retraction failure	• The 2nd Image Transfer Pressure Position Sensor is not activated (retracted position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's retracting motion. • The 2nd Image Transfer Pressure Position Sensor is not deactivated (pressed position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's pressing motion.
C0096	Image Transfer Belt pressure/retraction failure	• The 1st Image Transfer Retraction Position Sensor is not activated (retracted position) within 5 sec. after the 1st Image Transfer Pressure/Retraction Motor has started turning during a sequence of the Transfer Belt's retracting motion. • The 1st Image Transfer Retraction Position Sensor is not deactivated (pressed position) within 1 sec. after the 1st Image Transfer Pressure/Retraction Motor has started turning during a sequence of the Transfer Belt's pressing motion.
C0098	Fusing Pressure Roller pressure/retraction failure	• No change is observed in the encoder sensor pulse even after the lapse of 0.5 sec. after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller's retracting motion. • No change is observed in the encoder sensor pulse even after the lapse of 0.5 sec. after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller's pressing motion. • The Fusing Pressure Position Sensor is not activated (pressed position) even when 30 encoder sensor pulses are counted after the Fusing Pressure/Retraction Motor has started turning for a sequence of the Fusing Pressure Roller's pressing motion.

Code	Item	Description
C0200	Cyan PC Drum Charge Corona malfunction	• An output is automatically produced from the PC Drum Charge Corona of each color when the malfunction resetting procedure is performed after C0208 (PC Drum Charge Corona malfunction) has been detected. The SCD signal is detected for a continuous 0.5-sec. period at this time.
C0202	Magenta PC Drum Charge Corona malfunction	
C0204	Yellow PC Drum Charge Corona malfunction	
C0206	Black PC Drum Charge Corona malfunction	
C0208	PC Drum Charge Corona malfunction	• The SCD signal is detected for a continuous 0.5-sec. period while the PC Drum Charge Corona is being energized.
C0400	Exposure Lamp's failure to turn ON	• The output from the CCD Sensor is a predetermined value or less during CCD Sensor gain adjustment.
C0410	Exposure Lamp turning ON at abnormal timing	• The average output value of the CCD Sensor with the Scanner at its standby position is a predetermined value or more at the end of a scan job.
C0500	Heating Roller warm-up failure	• The temperature of the Heating Roller does not reach 100 °C within 50 sec. after the Heating Roller Heater Lamp has been turned ON. • The temperature of the Heating Roller does not reach 100 °C and that of the Fusing Pressure Roller does not reach 195 °C within 200 sec. after the Heating Roller Heater Lamp has been turned ON. • The voltage of the Heating Roller Thermistor does not increase by five steps within 20 sec. after the Heating Roller Heater Lamp has been turned ON. • No zero cross signal is detected even with the lapse of 1 sec. or more after the Heating Roller Heater Lamp has been turned ON.
C0501	Fusing Pressure Roller warm-up failure	• The voltage of the Fusing Pressure Roller Thermistor does not increase by five steps within 20 sec. after the predrive of the Fusing Roller has been started during a warm-up cycle.
C0510	Heating Roller abnormally low temperature	• No zero cross signal is detected even with the lapse of 1 sec. or more during a standby state, print cycle, or Power Save. • A temperature of 120 °C or less of the Heating Roller is detected for 1 sec. or more during a standby state. • A temperature of 120 °C or less of the Heating Roller is detected for 1 sec. or more during a print cycle. • A temperature of 70 °C or less of the Heating Roller is detected for 1 sec. or more during Power Save.
C0511	Fusing Pressure Roller abnormally low temperature	• . A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during a standby state. • A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during a print cycle. • A temperature of 80 °C or less of the Fusing Pressure Roller is detected for 1 sec. or more during Power Save.

Code	Item	Description
C0520	Heating Roller abnormally high temperature	• A temperature of 225 °C or more of the Heating Roller is detected for 1 sec. or more.
C0521	Fusing Pressure Roller abnormally high temperature	• A temperature of 190 °C or more of the Fusing Pressure Roller is detected for 1 sec. or more before the start of the heater temperature control. • A temperature of 215 °C or more of the Fusing Pressure Roller is detected for 1 sec. or more after the start of the heater temperature control.
C0650	Scanner Home Sensor malfunction	• The Scanner Home Sensor is unable to detect the Scanner located at its home position. • The Scanner Home Sensor is unable to detect a Scanner even when the Scanner Motor has been driven to move the Scanner over the maximum traveling distance. • The Scanner Home Sensor detects the Scanner when the Scanner has moved 5 mm from the position, at which it blocks the Scanner Home Sensor.
C0660	Scanner overrun failure	• The Scanner Home Sensor detects the Scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.
C0900	Tray3 Elevator failure	☞ See PC-101/PC-201 Service Manual.
C0910	Tray2 Elevator failure	• The Lift-up Sensor is not blocked even after the lapse of a given period of time after the lifting motion has been started.
C0950	Tray4 Elevator failure	☞ See PC-201 Service Manual.
C0960	Bypass lifting motion failure	• The Bypass Lift-up Sensor is not blocked even when the Tray2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the standby position to the take-up position was started. • The Bypass Lift-up Sensor is not unblocked even when the Tray2 Vertical Transport Motor has turned for a given number of pulses after the sequence to move the Paper Lifting Plate from the take-up position to the standby position was started.
C0990	LCT Elevator Motor malfunction (Elevator malfunction)	☞ See PC-401 Service Manual.
C0991	LCT ascent motion failure (soft limit error)	
C0996	LCT Shift Motor malfunction	
C0997	LCT shifting failure	
C0998	LCT ejection failure	
C099C	LCT Shift Gate malfunction	
C099D	LCT communications error	

Code	Item	Description
C0B00	Finishing option transport system malfunction	☞ See FS-501 or FS-601 Service Manual.
C0B05	Finishing option Paddle Motor malfunction	
C0B20	Finishing option Stapler Unit CD drive failure	
C0B25	Finishing option Stapler Unit Slide Motor malfunction	
C0B30	Finishing option Aligning Bar moving mechanism malfunction	
C0B39	Finishing option Front Aligning Motor malfunction	
C0B3A	Finishing option Rear Aligning Motor malfunction	
C0B48	Finishing option Exit Roller pressure/retraction failure	
C0B4A	Finishing option Storage Roller pressure/retraction failure	
C0B4C	Finishing option Exit Motor malfunction	
C0B50	Finishing option stapling mechanism malfunction 1	
C0B55	Finishing option Staple/Folding Motor malfunction	
C0B75	Finishing option Punch Cam Motor drive failure	
C0B76	Finishing option Punch Unit Board malfunction	
C0B77	Finishing option Punch Side Registration Motor malfunction	
C0B78	Finishing option Punch Motor malfunction	
C0B79	Finishing option Punch Sensor malfunction	
C0B80	Finishing option Shift Motor mechanism malfunction	
C0BA0	Finishing option Elevator drive malfunction	
C0BF1	Finishing option Backup RAM failure	
C0F30	Abnormally low toner density detected Cyan ATDC Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F31	Abnormally high toner density detected Cyan ATDC Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F32	Abnormally low toner density detected Magenta ATDC Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.

Code	Item	Description
C0F33	Abnormally high toner density detected Magenta ATDC Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F34	Abnormally low toner density detected Yellow ATDC Sensor	• T/C 0.21 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F35	Abnormally high toner density detected Yellow ATDC Sensor	• T/C 15.5 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F36	Abnormally low toner density detected Black ATDC Sensor	• T/C 3 % or less is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F37	Abnormally high toner density detected Black ATDC Sensor	• T/C 12 % or more is detected ten consecutive times in the Developing Unit as validated through the toner replenishing amount determination control.
C0F3A	Cyan ATDC Sensor adjustment failure	• ATDC Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
C0F3B	Magenta ATDC Sensor adjustment failure	
C0F3C	Yellow ATDC Sensor adjustment failure	
C0F3D	Black ATDC Sensor adjustment failure	
C1200	Standard controller configuration failure	• The controller of the MFP Control Board (PWB-MFP) is faulty.
C1203	File Memory mounting error	• The File Memory mounted on the MFP Control Board (PWB-MFP) is faulty.
C1204	Memory capacity discrepancy	• The capacity of the File Memory mounted on the MFP Control Board (PWB-MFP) is short.
C1220	Image Input Time Out	• Image data is not input from the Image Processing Board (PWB-C) to the MFP Control Board (PWB-MFP).
C1229	Image Output Time Out	• No image data is output from the MFP Control Board (PWB-MFP).
C1240	JBIG0 Error	• Memory of the MFP Control Board (PWB-MFP) is faulty.
C1241	JBIG1 Error	
C1242	JBIG2 Error	
C1243	JBIG3 Error	
C1250	Compressor 0 command buffer stop failure	• The MFP Control Board (PWB-MFP) is faulty.
C1251	Compressor 1 command buffer stop failure	
C1252	Compressor 2 command buffer stop failure	
C1253	Compressor 3 command buffer stop failure	
C1261	Compression hardware timeout	• The hardware involved with the compression function offered by the MFP Control Board (PWB-MFP) does not respond.

Code	Item	Description
C1265	Extraction hardware timeout	• The hardware involved with the extraction function offered by the MFP Control Board (PWB-MFP) does not respond.
C1279	PCI-SDRAM DMA operation failure	• The hardware involved with image transfer in the memory of the MFP Control Board (PWB-MFP) does not respond.
C1290	Compression/extraction timeout detection	• The hardware involved with the BTC compression function offered by the MFP Control Board (PWB-MFP) does not respond.
C12B1	Image processing ASIC failure 1	• Image processing ASIC (CPS2300S) on the MFP Control Board (PWB-MFP) does not respond.
C12B2	Image processing ASIC failure 2	• Image processing ASIC (PIC1200S) on the MFP Control Board (PWB-MFP) does not respond.
C12B3	Image processing ASIC failure 3	• Image processing ASIC (PIC3400LITE) on the MFP Control Board (PWB-MFP) does not respond.
C12B4	Image processing ASIC failure 4	• Image processing ASIC (BTCIF) on the MFP Control Board (PWB-MFP) does not respond.
C12C0	Hard disk recognition error	• Unable to communicate between the hard disk and MFP Control Board (PWB-MFP).
C12C1	Hard Disk Error 1	• Hard disk is faulty.
C12C2	Hard Disk Error 2	
C12C3	Hard Disk Error 3	
C12C4	Hard Disk Error 4	
C12C5	Hard Disk Error 5	
C12C6	Hard Disk Error 6	
C12C7	Hard Disk Error 7	
C12C8	Hard Disk Error 8	
C12C9	Hard Disk Error 9	
C12CA	Hard Disk Error A	
C12CB	Hard disk data transfer error	• Data transfer from the hard disk is faulty.
C12CC	Hard disk unformat	• Unformatted hard disk is connected.
C12CF	Hard disk specifications error	• A hard disk that falls outside the specifications is connected.
C12D0	Controller hardware error	• A controller hardware error is detected in the network I/F.
C13C8	New Transfer Cleaner Unit resetting failure	• A new installation is not detected when a new Transfer Cleaner Unit (Image Transfer Belt Unit) is installed.
C13CA	New Fusing Unit resetting failure	• A new installation is not detected when a new Fusing Unit is installed.
C13D1	Cyan Imaging Unit EEPROM access error	• A condition of “EEPROM is not connected” or “There is an access error” is detected in EEPROM of the Imaging Unit.
C13D2	Magenta Imaging Unit EEPROM access error	
C13D3	Yellow Imaging Unit EEPROM access error	
C13D4	Black Imaging Unit EEPROM access error	

Code	Item	Description
C13D5	Cyan LPH correction data download failure	• . An error is detected while the LPH correction data is being downloaded from EEPROM of LPH to PWB-MFP when the Power Switch is turned ON.
C13D6	Magenta LPH correction data download failure	
C13D7	Yellow LPH correction data download failure	
C13D8	Black LPH correction data download failure	
C1800	Controller start failure	• A controller start failure is detected in the controller interface.
C3310	CCD clamp/gain adjustment failure	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.
C3331	MSC undefined malfunction occurring	• An undefined malfunction occurs in the MSC of the MFP Control Board (PWB-MFP).
C3332	Scanner Section undefined malfunction	• An undefined malfunction occurs in the Scanner Section.
C3333	Engine Section undefined malfunction	• An undefined malfunction occurs in the Engine Section (PWB-MC, etc.).
⚠1 C3CXX	• Call responsible person of Konicaminolta.	
C3E00	NVRAM initialization failure	• Call responsible person of Konicaminolta.
⚠1 C3E01		
C3E02		
C3F00	Vendor connection failure	• It is detected that communications with the vendor are interrupted for a given period of time or more with "Installed" selected for the setting of vendor installation.
C3FFC	ROM contents error upon startup (LPH)	• A fault is detected in a sequence of ROM contents check of the LPH Board during starting.
C3FFD	ROM contents error upon startup (Scanner)	• A fault is detected in a sequence of ROM contents check of the PWB-C during starting.
C3FFE	ROM contents error upon startup (PRT)	• A fault is detected in a sequence of ROM contents check of the Control Board during starting.
C3FFF	ROM contents error upon startup (MSC)	• A fault is detected in a sequence of ROM contents check of the MSC (PWB-MFP) during starting

2.5 How to reset

- Different malfunction resetting procedures apply depending on the type of the malfunction code.

* List of Malfunction Resetting Procedures

Resetting Procedure	Applicable Malfunctions	Applicable Malfunction Codes
Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board	Exposure lamp	C04XX
	Fusing	C05XX
	Scanner	C06XX
	Mechanical control	C3332, 3333
Turn OFF and ON the Power Switch.	Scanner	C0650, C0660, C3310, C3700
	Memory	C12XX
	NIC	C12D0, C1800
	Imaging Unit	C13D1, C13D2, C13D3, C13D4
	LPH correction data	C13D5, C13D6, C13D7, C13D8
	Mechanical control	C3331, C3FXX
	Punch Unit	C0B7X
Open and close the Front Door	All but above	All malfunction codes but those listed above

2.6 Solution

2.6.1 C0000: Main Motor's failure to turn

Relevant Electrical Parts	
Main Motor (M1)	Control Board (PWB-MC) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ6MC-1 (DC24 V)	15-R
4	M1 operation check	PWB-MC PJ11MC-6A (LOCK) PWB-MC PJ11MC-3A (REM)	6-Q
5	Change PWB-MC.	—	—
6	Change PU1.	—	—

2.6.2 C0001: Main Motor Turning at abnormal timing

Relevant Electrical Parts	
Main Motor (M1)	Control Board (PWB-MC) DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M1 operation check	PWB-MC PJ11MC-6A (LOCK) PWB-MC PJ11MC-3A (REM)	6-Q
2	Change PWB-MC.	—	—
3	Change PU1.	—	—

2.6.3 C0016: Bk PC Motor failure to turn

Relevant Electrical Parts	
Bk PC Motor (M7)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ6MC-3 (DC24 V)	15-R
4	M7 operation check	PWB-MC PJ11MC-6B (LOCK) PWB-MC PJ11MC-3B (REM)	13-A
5	Change PWB-MC.	—	—

2.6.4 C0017: Bk PC Motor turning at abnormal timing

Relevant Electrical Parts	
Bk PC Motor (M7)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M7 operation check	PWB-MC PJ11MC-6B (LOCK) PWB-MC PJ11MC-3B (REM)	13-A
2	Change PWB-MC.	—	—

2.6.5 C0018: Color PC Motor failure to turn

Relevant Electrical Parts	
Color PC Drum Motor (M5)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ6MC-5 (DC24 V)	15-R
4	M5 operation check (C0018)	PWB-MC PJ11MC-13B (LOCK) PWB-MC PJ11MC-10B (REM)	13-B
5	Change PWB-MC	—	—

2.6.6 C0019: Color PC Motor turning at abnormal timing

Relevant Electrical Parts	
Color PC Drum Motor (M5)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M5 operation check (C0019)	PWB-MC PJ11MC-13B (LOCK) PWB-MC PJ11MC-10B (REM)	13-B
2	Change PWB-MC	—	—

2.6.7 C001A: Color Developing Motor failure to turn

Relevant Electrical Parts	
Color Developing Motor (M6)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling and correct as necessary.	—	—
3	Check the PU-1 connector for proper connection and correct as necessary.	PU1 PJ5PU1-13 (DC24 V)	22-E
4	M6 operation check (C001A)	PWB-MC PJ2MC-6 (LOCK) PWB-MC PJ2MC-3 (REM)	13-D
5	Change PU-1	—	—

2.6.8 C001B: Color Developing Motor turning at abnormal timing

Relevant Electrical Parts	
Color Developing Motor (M6)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M6 operation check (C001B)	PWB-MC PJ2MC-6 (LOCK) PWB-MC PJ2MC-3 (REM)	13-D
2	Change PWB-MC	—	—

2.6.9 C0040: Suction Fan Motor's failure to turn

Relevant Electrical Parts	
Suction Fan Motor (M12)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M12 operation check	PWB-MC PJ18MC-9 (LOCK) PWB-MC PJ18MC-7 (REM)	6-P
4	Change PWB-MC	—	—

2.6.10 C0046: Fusing Cooling Fan Motor /1's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/1 (M9)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M9 operation check	PU1 PJ17PU1-5 (LOCK)	2-K
4	Change PU-1	—	—

2.6.11 C0048: Fusing Cooling Fan Motor /2 /3's failure to turn

Relevant Electrical Parts	
Fusing Cooling Fan Motor/2 (M15) Fusing Cooling Fan Motor/3 (M16)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M15, M16 operation check	M15: PWB-MC PJ3MC-6A (LOCK) PWB-MC PJ3MC-4A (REM) M16: PWB-MC PJ3MC-9A (LOCK) PWB-MC PJ3MC-7A (REM)	2-I (M15) 2-J (M16)
4	Change PWB-MC	—	—

2.6.12 C004C: Ozone Ventilation Fan Motor's failure to turn

Relevant Electrical Parts	
Ozone Ventilation Fan Motor (M18)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M18 operation check	PWB-MC PJ5MC-13 (LOCK) PWB-MC PJ5MC-11 (REM)	26-V
4	Change PWB-MC	—	—

2.6.13 C004D: Toner Suction Fan Motor's failure to turn

Relevant Electrical Parts	
Toner Suction Fan Motor (M20)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M20 operation check	PWB-MC PJ3MC-3A (LOCK) PWB-MC PJ3MC-1A (REM)	26-V
4	Change PWB-MC	—	—

2.6.14 C004E: Power Supply Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
Power Supply Cooling Fan Motor (M21)	DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M21 operation check	PU1 PJ12PU1-3 (LOCK)	22-G
4	Change PU-1	—	—

2.6.15 C004F: Cooling Fan Motor 2's failure to turn

Relevant Electrical Parts	
Cooling Fan Motor/2 (M10)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connector of motor for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	M10 operation check	PWB-MC PJ5MC-7 (LOCK) PWB-MC PJ5MC-6 (REM)	26-U
4	Change PWB-MC	—	—

2.6.16 C0060: Fusing Drive Motor's failure to turn

Relevant Electrical Parts	
Fusing Drive Motor (M2)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M2 connector for proper connection and correct as necessary.	—	—
2	Check the Fusing Unit drive for possible overload and correct as necessary.	—	—
3	Check the PWB-MC connector for proper connection and correct as necessary.	PWB-MC PJ6MC-7 (DC24 V)	15-R
4	M2 operation check	PWB-MC PJ11MC-13A (LOCK) PWB-MC PJ11MC-10A (REM)	2-N
5	Change PWB-MC	—	—

2.6.17 C0061: Fusing Drive Motor turning at abnormal timing

Relevant Electrical Parts	
Fusing Drive Motor (M2)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	M2 operation check	PWB-MC PJ11MC-13A (LOCK) PWB-MC PJ11MC-10A (REM)	2-N
2	Change PWB-MC	—	—

2.6.18 C0094: 2nd Image Transfer Roller pressure/retraction failure

Relevant Electrical Parts	
2nd Image Transfer Pressure/Retraction Sensor (PC29) 2nd Image Transfer Pressure/Retraction Motor (M13)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M13 connector for proper connection and correct as necessary.	—	—
2	PC29 I/O check	PWB-MC PJ12MC-9A (ON)	6-B
3	M13 operation check	PWB-MC PJ18MC-1 (REM)	6-A
4	Change PWB-MC	—	—

2.6.19 C0096: Image Transfer Belt pressure/retraction failure

Relevant Electrical Parts	
1st Image Transfer Retraction Position Sensor (PC12) 1st Image Transfer Pressure/Retraction Motor (M11)	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M11 connector for proper connection and correct as necessary.	—	—
2	PC12 I/O check	PWB-MC PJ3MC-6B (ON)	6-B
3	M11 operation check	PWB-MC PJ5MC-1~4 (Pulse Output)	6-C
4	Change PWB-MC	—	—

2.6.20 C0098: Fusing Pressure Roller pressure/retraction failure

Relevant Electrical Parts	
Fusing Pressure/Retraction Sensor (PC33) Fusing Pressure Roller Pressure/Retraction Motor (M19)	Control Board (PWB-MC) Fusing Unit

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M9 connector for proper connection and correct as necessary.	—	—
2	PC33 I/O check	PWB-MC PJ7MC-12A (ON)	2-M
3	PC34 operation check	PWB-MC PJ16MC-3A (Pulse Output)	16-P
4	M19 operation check	PWB-MC PJ19MC-5B,6B (Pulse Output)	2-J
5	Change Fusing Unit	—	—
6	Change PWB-MC	—	—

2.6.21 C0200: Cyan PC Drum Charge Corona malfunction

2.6.22 C0202: Magenta PC Drum Charge Corona malfunction

2.6.23 C0204: Yellow PC Drum Charge Corona malfunction

2.6.24 C0206: Black PC Drum Charge Corona malfunction

2.6.25 C0208: PC Drum Charge Corona malfunction

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /Bk	High Voltage Unit/1 (HV1) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Imaging Unit contact and correct or clean as necessary.	—	—
2	Check the HV1 contact and correct or clean as necessary.	—	—
3	Change Imaging Unit.	—	—
4	Change HV1.	—	—
5	Change PWB-MC	—	—

2.6.26 C0400: Exposure Lamp's failure to turn ON

2.6.27 C0410: Exposure Lamp turning ON at abnormal timing

Relevant Electrical Parts	
Scanner Assy Flat Cable	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the flat cable for proper connection and correct or change as necessary.	—	—
2	Change Scanner Assy.	—	—
3	Change PWB-C.	—	—

2.6.28 C0500: Heating Roller warm-up failure

2.6.29 C0501: Fusing Pressure Roller warm-up failure

2.6.30 C0510: Heating Roller abnormally low temperature

2.6.31 C0511: Fusing Pressure Roller abnormally low temperature

2.6.32 C0520: Heating Roller abnormally high temperature

2.6.33 C0521: Fusing Pressure Roller abnormally high temperature

Relevant Electrical Parts	
Fusing Unit	DC Power Supply (PU1) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Fusing Unit for correct installation (whether it is secured in position).	—	—
2	Check the Fusing Unit, PWB-MC and PU1 for proper connection and correct or change as necessary.	—	—
3	Change Fusing Unit.	—	—
4	Change PWB-MC	—	—
5	Change PU1.	—	—

2.6.34 C0650: Scanner Home Sensor malfunction

2.6.35 C0660: Scanner overrun failure

Relevant Electrical Parts	
Scanner Home Sensor (PC201) Scanner Motor (M201)	Scanner Motor Drive Board (PWB-IC) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct or change the Scanner drive (cable, pulley, gear, belt) if it is faulty.	—	—
2	Correct the Scanner Motor set screw if loose.	—	—
3	Adjust “Top Image” and “FD-Mag.”	—	—
4	Check the PC201, M201, PWB-IC and PWB-C connector for proper connection and correct as necessary.	—	—
5	PC201 I/O check	PWB-C PJ11C-8 (ON)	21-Z
6	M201 operation check	PWB-IC PJ3IC-3 (LOCK) PWB-IC PJ3IC-1 (REM)	25-Z
7	Change PWB-IC.	—	—
8	Change PWB-C.	—	—

2.6.36 C0900: 2nd Drawer Lift-Up Motor Failure

Relevant Electrical Parts	
Tray2 Lift-Up Sensor (PC105) Tray2 Lift-Up Motor (M101)	Tray2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M101 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M101 for proper drive coupling and correct as necessary.	—	—
3	PC105 I/O check	PWB-Z PJ6Z-3 (ON)	2-Y
4	M101 operation check	PWB-Z PJ4Z-4 (+) PWB-Z PJ4Z-5 (-)	2-U
5	Change PWB-Z.	—	—

2.6.37 C0960: Manual Bypass Paper Lifting Failure

Relevant Electrical Parts	
Bypass Lift-Up Sensor (PC115) Tray2 Vertical Transport Motor (M103)	Tray2 Board (PWB-Z)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the M103 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M103 for proper drive coupling and correct as necessary.	—	—
3	PC115 I/O check	PWB-Z PJ7Z-11A (ON)	2-E
4	CL101 operation check	—	—
5	M103 operation check	PWB-Z PJ5Z-5-8 (Pulse Output)	2-V
6	Change PWB-Z.	—	—

2.6.38 C0F30: Abnormally low toner density detected Cyan ATDC Sensor

2.6.39 C0F32: Abnormally low toner density detected Magenta ATDC Sensor

2.6.40 C0F34: Abnormally low toner density detected Yellow ATDC Sensor

Relevant Electrical Parts	
ATDC Sensor/C (PWB-N3)	Control Board (PWB-MC)
ATDC Sensor/M (PWB-N2)	MFP Control Board (PWB-MFP)
ATDC Sensor/Y (PWB-N1)	Imaging Unit /C
Toner Supply Motor C/Bk (M3)	Imaging Unit /M
Toner Supply Motor Y/M (M4)	Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	Clean the ATDC Sensor window on the underside of the Imaging Unit if dirty	—	—
3	Correct the ATDC Sensor spring moving part if faulty.	—	—
4	Clean the ATDC Sensor LED if dirty	—	—
5	Change ATDC Sensor C/M/Y.	—	—
6	M3, M4 operation check	M3: PWB-MC PJ16MC-4A~7A (Pulse Output) M4: PWB-MC PJ16MC-10A~13A (Pulse Output)	M3: 19-I M4: 19-J
7	Change Imaging Unit.	—	—
8	Change PWB-MC	—	—
9	Change PWB-MFP.	—	—

2.6.41 C0F31: Abnormally high toner density detected Cyan ATDC Sensor

2.6.42 C0F33: Abnormally high toner density detected Magenta ATDC Sensor

2.6.43 C0F35: Abnormally high toner density detected Yellow ATDC Sensor

Relevant Electrical Parts	
ATDC Sensor/C (PWB-N3) ATDC Sensor/M (PWB-N2) ATDC Sensor/Y (PWB-N1)	Control Board (PWB-MC) MFP Control Board (PWB-MFP) Imaging Unit /C Imaging Unit /M Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the ATDC Sensor window on the underside of the Imaging Unit if dirty	—	—
2	Clean the ATDC Sensor LED if dirty	—	—
3	Correct the contact and/or WIRING of the ATDC Sensor if faulty.	—	—
4	Change ATDC Sensor C/M/Y.	—	—
5	Change Imaging Unit.	—	—
6	Change PWB-MC	—	—
7	Change PWB-MFP.	—	—

2.6.44 C0F36: Abnormally low toner density detected Black ATDC Sensor

Relevant Electrical Parts	
ATDC Sensor/Bk (UN10) Toner Supply Motor C/Bk (M3)	Control Board (PWB-MC) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	—	—
2	M3 operation check	PWB-MC PJ16MC-4A~7A (Pulse Output)	19-I
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFP.	—	—

2.6.45 C0F37: Abnormally high toner density detected Black ATDC Sensor

Relevant Electrical Parts	
Imaging Unit /Bk ATDC Sensor/Y (PWB-N1)	Control Board (PWB-MC) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the ATDC connection on the underside of the Imaging Unit if faulty.	—	—
2	Clean or correct each contact of the Imaging Unit if faulty.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFP.	—	—

2.6.46 C0F3A: Cyan ATDC Sensor adjustment failure

2.6.47 C0F3B: Magenta ATDC Sensor adjustment failure

2.6.48 C0F3C: Yellow ATDC Sensor adjustment failure

Relevant Electrical Parts	
ATDC Sensor/C (PWB-N3) ATDC Sensor/M (PWB-N2) ATDC Sensor/Y (PWB-N1) Toner Supply Motor C/Bk (M3) Toner Supply Motor Y/M (M4)	Control Board (PWB-MC) MFP Control Board (PWB-MFP) Imaging Unit /C Imaging Unit /M Imaging Unit /Y

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the ATDC Sensor window on the underside of the Imaging Unit if dirty	—	—
2	Clean the ATDC Sensor LED if dirty	—	—
3	Correct the contact and/or WIRING of the ATDC Sensor if faulty.	—	—
4	Reinstall Imaging Unit C/M/Y.	—	—
5	M3, M4 operation check	M3: PWB-MC PJ16MC-4A~7A (Pulse Output) M4: PWB-MC PJ16MC-10A~13A (Pulse Output)	M3: 19-I M4: 19-J
6	Change Imaging Unit.	—	—
7	Change PWB-MC	—	—
8	Change PWB-MFP.	—	—

2.6.49 C0F3D: Black ATDC Sensor adjustment failure

Relevant Electrical Parts	
Imaging Unit /Bk	Control Board (PWB-MC) MFP Control Board (PWB-MFP)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the ATDC connection on the underside of the Imaging Unit if faulty.	—	—
2	Clean or correct each contact of the Imaging Unit if faulty.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—
5	Change PWB-MFP.	—	—

2.6.50 C1200: Standard Controller configuration failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the following setting has been correctly made: “Tech. Rep. Mode” → “System Input” → “Peripheral Setting.” If the setting is changed, be sure to turn OFF and ON the Power Switch.	—	—
2	Check the connectors of the MFP Control Board (PWB-MFP) for proper connection and correct as necessary.	—	—
3	Change PWB-MFP.	—	—

2.6.51 C1203: Memory mounting failure

2.6.52 C1204: Memory mounting failure

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Standard Memory (DIMMS0)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check to see if the standard memory (DIMMS0) on the MFP Control Board (PWB-MFP) is installed correctly.	—	—
2	Change the standard memory (DIMMS0) on the MFP Control Board (PWB-MFP).	—	—
3	Change PWB-MFP.	—	—

2.6.53 C1220: Image Input Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/Hard Disk Adjust” → “Memory Bus Check” → “IR→Memory”.	—	—
2	Check the connectors between PWB-MFP and PWB-C for proper connection and correct as necessary.	—	—
3	Change PWB-MFP.	—	—
4	Change PWB-C.	—	—

2.6.54 C1229: Image Output Time Out

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/Hard Disk Adjust” → “Memory Bus Check” → “Memory→PRT”.	—	—
2	Check the connectors on PWB-MFP for proper connection and correct as necessary.	—	—
3	Change PWB-MFP.	—	—

2.6.55 C1240: JBIG0 Error

2.6.56 C1241: JBIG1 Error

2.6.57 C1242: JBIG2 Error

2.6.58 C1243: JBIG3 Error

2.6.59 C1250: Compressor 0 command buffer stop failure

2.6.60 C1251: Compressor 1 command buffer stop failure

2.6.61 C1252: Compressor 2 command buffer stop failure

2.6.62 C1253: Compressor 3 command buffer stop failure

2.6.63 C1261: Compression hardware timeout

2.6.64 C1265: Extraction hardware timeout

2.6.65 C1279: PCI-SDRAM DMA operation failure

2.6.66 C1290: Compression/extraction timeout detection

2.6.67 C12B1: Image processing ASIC failure 1

2.6.68 C12B2: Image processing ASIC failure 2

2.6.69 C12B3: Image processing ASIC failure 3

2.6.70 C12B4: Image processing ASIC failure 4

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Change PWB-MFP.	—	—

2.6.71 C12C0: Hard disk recognition error

2.6.72 C12C1: Hard Disk Error 1

2.6.73 C12C2: Hard Disk Error 2

2.6.74 C12C3: Hard Disk Error 3

2.6.75 C12C4: Hard Disk Error 4

2.6.76 C12C5: Hard Disk Error 5

2.6.77 C12C6: Hard Disk Error 6

2.6.78 C12C7: Hard Disk Error 7

2.6.79 C12C8: Hard Disk Error 8

2.6.80 C12C9: Hard Disk Error 9

2.6.81 C12CA: Hard Disk Error A

2.6.82 C12CB: Hard disk data transfer error

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Reinstall the hard disk.	—	—
2	Change Hard Disk.	—	—
3	Change PWB-MFP.	—	—

2.6.83 C12CC: Hard disk unformat

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	Hard Disk

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/Hard Disk Adjust” → “Hard Disk Format”	—	—
2	Change Hard Disk.	—	—
3	Change PWB-MFP.	—	—

2.6.84 C12CF: Hard disk specifications error

Relevant Electrical Parts	
Hard Disk	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the hard disk specifications.	—	—
2	Change the hard disk.	—	—

2.6.85 C13C8: New Transfer Cleaner Unit resetting failure

2.6.86 C13CA: New Fusing Unit resetting failure

Relevant Electrical Parts	
Control Board (PWB-MC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Reinstall Unit	—	—
2	Change PWB-MC	—	—

2.6.87 C13D1: Cyan Imaging Unit EEPROM access error

2.6.88 C13D2: Magenta Imaging Unit EEPROM access error

2.6.89 C13D3: Yellow Imaging Unit EEPROM access error

2.6.90 C13D4: Black Imaging Unit EEPROM access error

Relevant Electrical Parts	
Imaging Unit /C Imaging Unit /M Imaging Unit /Y Imaging Unit /Bk	Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Clean the connection between the Imaging Unit and copier if dirty	—	—
2	Reinstall Imaging Unit C/M/Y/Bk.	—	—
3	Change Imaging Unit.	—	—
4	Change PWB-MC	—	—

2.6.91 C13D5: Cyan LPH correction data download failure

2.6.92 C13D6: Magenta LPH correction data download failure

2.6.93 C13D7: Yellow LPH correction data download failure

2.6.94 C13D8: Black LPH correction data download failure

Relevant Electrical Parts	
LPH Assy/C LPH Assy/M LPH Assy/Y LPH Assy/Bk	LED Drive Board (PWB-LED) MFP Control Board (PWB-MFP) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the harness connection between LPH and PWB-LED if faulty.	—	—
2	Correct the harness connection between PWB-LED and PWB-MFP if faulty.	—	—
3	Change LPH Assy.	—	—
4	Change PWB-LED.	—	—
5	Change PWB-MFP.	—	—
6	Change PWB-MC	—	—

2.6.95 C3310: CCD clamp/gain adjustment failure

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the harness connection between PWB-A and PWB-C if faulty.	—	—
2	Check for possible extraneous light and correct as necessary.	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty	—	—
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.	—	—
5	Change PWB-A.	—	—
6	Change PWB-C.	—	—

2.6.96 C3331: MSC undefined malfunction occurring

Relevant Electrical Parts	
MFP Control Board (PWB-MFP)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the connectors on PWB-MFP for proper connection and correct as necessary.	—	—
2	Change PWB-MFP.	—	—

2.6.97 C3332: Scanner Section undefined malfunction

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Correct the connector connection between PWB-A and PWB-C if faulty.	—	—
2	Change PWB-C.	—	—
3	Change PWB-A.	—	—

2.6.98 C3333: Engine Section undefined malfunction

Relevant Electrical Parts	
Control Board (PWB-MC)	

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the PWB-MC connector for proper connection and correct as necessary.	—	—
2	Change PWB-MC	—	—

2.6.99 C3E00: NVRAM initialization failure

2.6.100 C3E01: NVRAM initialization failure

2.6.101 C3E02: NVRAM initialization failure

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Call responsible person of Konicaminolta.	—	—

2.6.102 C3F00: Vendor connection failure

Relevant Electrical Parts	
Control Board (PWB-MC)	Coin Vendor (Japan) Coin Vendor Kit (North America, Europe)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the Vendor connector for proper connection and correct as necessary.	—	—
2	Check the PWB-MC connector for proper connection and correct as necessary.	—	—
3	Change PWB-MC	—	—

2.6.103 C3FFC: ROM contents error upon startup (LPH)

2.6.104 C3FFD: ROM contents error upon startup (Scanner)

2.6.105 C3FFE: ROM contents error upon startup (PRT)

2.6.106 C3FFF: ROM contents error upon startup (MSC)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—
2	Rewrite firmware using the Compact Flash card.	—	—

3. Power supply trouble

3.1 Machine is not Energized at All (PU1 Operation Check)

Relevant Electrical Parts	
Power Switch (SW1) Control Board (PWB-MC)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across PJ1PU1-1 and 2 on PU1?	26-G	NO	Check WIRING between the wall outlet and PJ1PU1.
2	Are the fuses (F1 and F2) on PU1 conducting?	—	NO	Change PU1.
3	Is DC24 V being output from PJ5PU1-1 on PU1?	23-E	NO	Change PU1.
4	Is DC5 V being input to PJ10PU1-1 on PU1?	23-C	NO	Change PU1.
5	Is DC5 V being input to PJ1MC-7 on the Control Board? (LED on PWB-MC does not blink.)	14-E	NO	Change PU1.
			YES	Change PWB-MC

3.2 Control panel indicators do not light.

Relevant Electrical Parts	
Image Processing Board (PWB-C) Control Panel (UN201)	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the Scanner and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	Is a power voltage being applied across PJ1PU1-1 and 2 on PU1?	26-G	NO	Check the WIRING from the wall outlet to SW1 PJ1PU1.
3	Is the fuse (F1,F2) on PU1 conducting?	—	NO	Change PU1.
4	Is DC5 V being output from PJ10PU1-5 on PU1 and DC24 V from PJ5PU1-3?	22-H	NO	Change PU1.
5	Is PJ12C on PWB-C securely connected?	19-Y	NO	Reconnect.
6	Is CN1UN201on UN201 securely connected?	24-F	NO	Reconnect.
			YES	Change UN201. Change PWB-C.

3.3 Fusing Heaters do not Operate

Relevant Electrical Parts	
Upper Right Door Switch (SW5) Fusing Unit	DC Power Supply (PU1)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across PJ2PU1-1 and 3 on PU1? During this time, the Right Door should be closed.	26-G	NO	Check wiring from power outlet to SW5 to PJ2PU1.
2	Is the power source voltage applied across CN44-1 and 3, or across 2 and 3?	3-G	YES	Fusing Unit
			NO	Change PU1.

3.4 Power is not Supplied to Options

3.4.1 ADF

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN51-1 on DF-601?	23-E	YES	Malfunction in DF-601
2	Is DC24 V being output from PJ5PU1-4 on PU1?	23-E	NO	Check wiring from PU1 to CN53 to ADF.
3	Is the fuse (F201) on PU1 conducting?		YES	Change PU1.
			NO	Change F201. Malfunction in DF-601

3.4.2 Optional Paper Feed Cabinet

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being applied to hookup connector CN28-1?	26-J	NO	Malfunction in Paper Feed Cabinet
2	Is DC24 V being output from PJ6PU1-2 on PU1?	22-F	NO	Check wiring from PU1 to CN49 to Paper Feed Cabinet.
3	Is the fuse (F204) on PU1 conducting?		YES	Change PU1.
			NO	Change F204. Malfunction in Paper Feed Cabinet

3.4.3 Finisher

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V and DC5 V being applied to CN20-11 and CN20-1, respectively, of the Finisher?	26-J	NO	Malfunction in Finisher.
2	Are DC24 V and DC5 V being applied to PJ5PU1-6 and PJ10PU1-2 on PU1, respectively?	22-F	NO	Check wiring from PU1 to Finisher.
3	Are there continuity in the 24-V fuse (F202) and 5-V fuse (F205) on PU1?		YES	Change PU1.
			NO	Change F202, F205. Malfunction in Finisher.

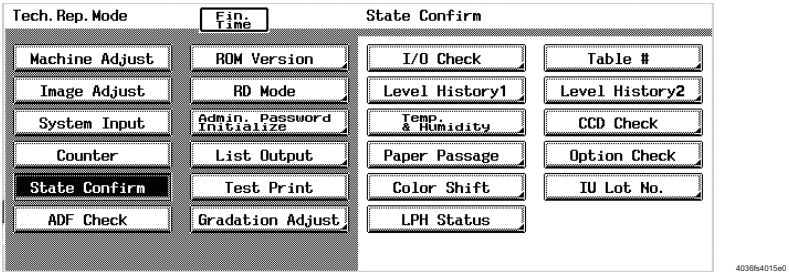
3.4.4 Duplex

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being output from CN42-1 on Duplex?	26-J	NO	Malfunction in Duplex.
2	Is DC24 V being output from PJ6PU1-1 on PU1?	22-F	NO	Check wiring from PU1 to Duplex.
3	Is the fuse (F203) on PU1 conducting?		YES	Change PU1.
			NO	Change F203. Malfunction in Duplex.

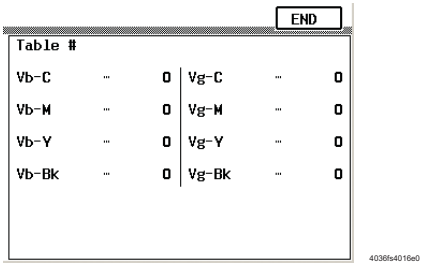
4. Image quality problem

4.1 How to read Element date

- As part of troubleshooting procedures, the numeric values set for “State Confirm” available from “Tech. Rep. Mode” can be used to isolate the cause of the image problem.

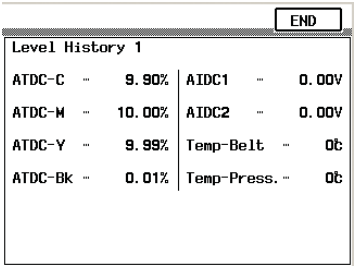


4.1.1 Table



Vb-C Vb-M Vb-Y Vb-Bk	• Shows the developing bias value of each color of toner when an image is produced. • Standard values: Around 390 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components : Imaging Unit, High Voltage Unit (Developing Bias)
Vg-C Vg-M Vg-Y Vg-Bk	• Shows the grid voltage value of each color of toner when an image is produced. • Standard values: Around 500 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant Components : Imaging Unit, High Voltage Unit (Developing Bias)

4.1.2 Level History 1



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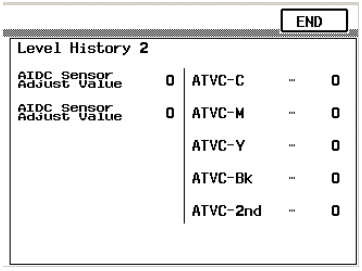
ATDC-C ATDC-M ATDC-Y ATDC-Bk	• Shows the T/C ratio (in 0.01 % increments). • Standard value: 7 ± 3 % • Relevant Components : LPH Unit, ATDC Sensor Bk
AIDC1 AIDC2	• Shows the AIDC bare surface output reading taken last (in 0.01 V increments). • It should normally be around 4.3 V. • The output range is 0 V to 5 V. • “Reading taken last” means: Latest toner density When the Start key is pressed, the output value is displayed while a test print is being produced. • Relevant Components : AIDC Sensor, Transfer Belt Unit
Temp Belt. Temp Press.	• Shows the temperature of the Heating Roller (Temp-Belt) and the Fusing Pressure Roller (Temp-Press.) (in 5 °C increments). • Relevant Components : Fusing Unit

4.1.3 Level History 2



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AIDC Sensor Adjust Value 1, 2	• Shows the AIDC intensity adjustment value. • It should normally be around 40 and can range from 0 to 255. • The value becomes greater as the Transfer Belt Unit has been used more. • Relevant Components : AIDC Sensor, Transfer Belt Unit
ATVC -C ATVC -M ATVC -Y ATVC -Bk ATVC -2nd	• Shows the latest ATVC level (which varies according to the paper type). • 300 V to 3000 V (ATVC-C/-M/-Y/-Bk) • 300 V to 5000 V (ATVC-2nd) • Relevant Components : Transfer Belt Unit, High Voltage Unit (Image Transfer, Neutralizing)

4.2 How to identify problematic part

- This chapter is divided into two parts: “Initial Check Items” and “Troubleshooting Procedure by a Particular Image Quality Problem.”
- When an image quality problem occurs, first go through the “Initial Check Items” and, if the cause is yet to be identified, go to “Troubleshooting Procedure by a Particular Image Quality Problem.”

4.2.1 Initial Check Items

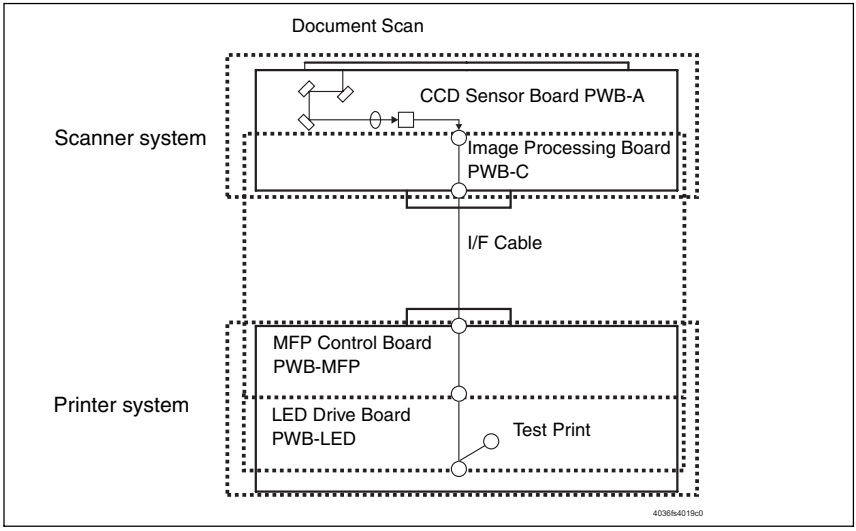
A. Initial Check Items 1

- Check first to see if image data is properly transmitted between Scanner and memory, and between memory and printer.

Action	Result	Next Step
Enter the Tech. Rep. Mode, select “Machine Adjust” → “Memory/Hard Disk Adjust” → “Memory Bus Check,” and select and carry out “IR→Memory” and “Memory→PRT” checks.	OK	Initial Check Items 2
	NG	☞ 4-42 (action as instructed)

B. Initial Check Items 2

- Let the copier produce a test print and determine whether the image problem is attributable to the Scanner or printer system.

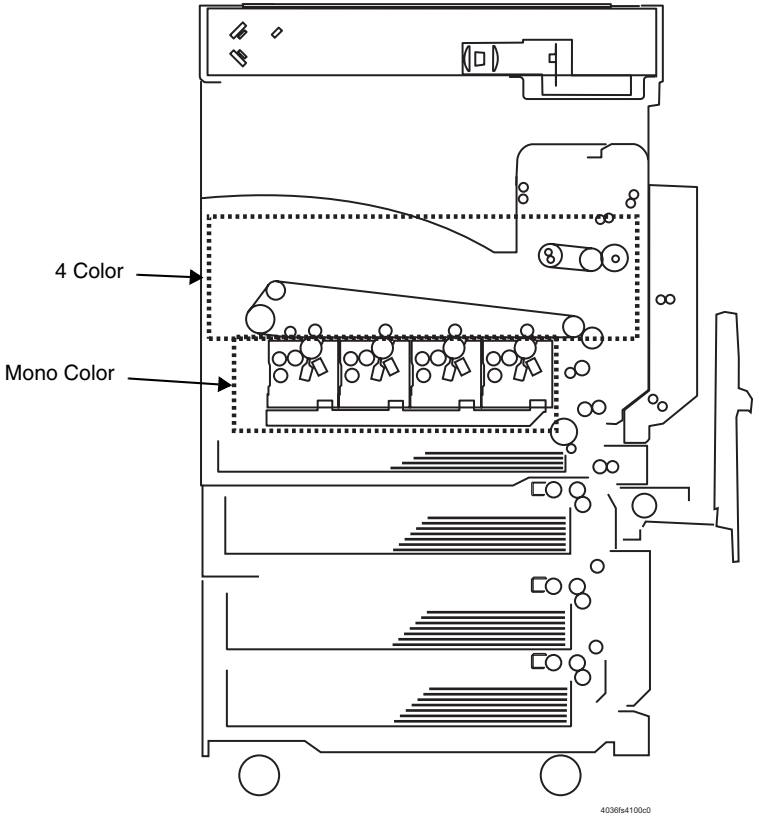


- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From “Tech. Rep. Mode,” select “Test Print” → “Halftone Pattern” → “SINGLE” → “HYPER” → “Gradation” → “C→M→Y→Bk” → “Density 64,” and produce a test print. Is image problem evident?	YES	Printer	Initial Check Items 3
		NO	Scanner	☞ 4-56

C. Initial Check Items 3

- If the printer is responsible for the image problem, let the copier produce a test print and determine whether the image problem occurs in a specific single color or four colors



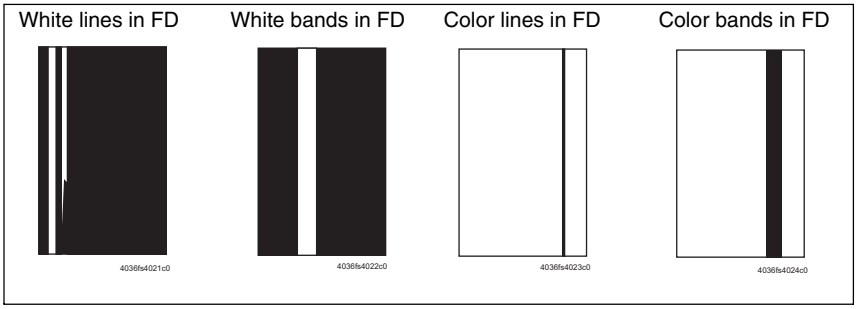
- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From “Tech. Rep. Mode,” select “Test Print” → “Halftone Pattern” → “SINGLE” → “HYPER” → “Gradation” → “C→M→Y→Bk” → “Density 64,” and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	☞ 4-85
		NO	Printer, single color	☞ 4-69

4.3 Solution

4.3.1 IR System: white lines in FD, white bands in FD, colored lines in FD, and colored bands in FD

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure Lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	Machine Adjust → Scanner Area → Left Image (Tech. Rep. Mode)	The adjustment value for Left Image falls within the specified range.	NO	Readjust.
7	Scanner	The white lines/bands or colored lines/bands are blurry.	YES	Change Scanner Assy. Change CCD Unit.

4.3.2 IR System: white lines in CD, white bands in CD, colored lines in CD, and colored bands in CD

A. Typical Faulty Images

White lines in CD

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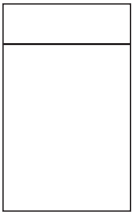
White bands in CD

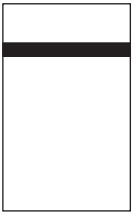
4036fs4026c0

Color lines in CD



4036fs4027c0

Color bands in CD



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B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Machine Adjust → Scanner Area → Top Image (Tech. Rep. Mode)	The adjustment value for Top Image falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

4.3.3 IR System: color spots

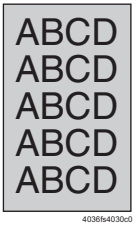
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

4.3.4 IR System: fog

A. Typical Faulty Images

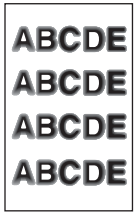


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original Cover	Original Pad is dirty.	YES	Clean.
3		Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
4	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
6	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
7		Lens is dirty.	YES	Clean.
8		Exposure Lamp is dirty.	YES	Clean.
9		Reflectors are dirty.	YES	Clean.
10	Photo/Density	The problem is eliminated when the image is produced in the Manual exposure setting.	NO	Try another exposure level in Manual.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Scanner Assy. Change CCD Unit.

4.3.5 IR System: blurred image, blotchy image

A. Typical Faulty Images



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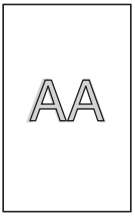
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Original Glass	Original Glass tilts.	YES	Position Original Glass correctly. Check original loading position.
4	IR	Scanner is not aligned with the 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

4.3.6 IR System: incorrect color image registration, sync shift (lines in CD)

A. Typical Faulty Images

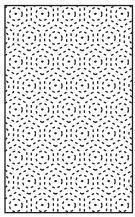


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	Original Cover	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
3	Slide rails	Foreign matter on rails.	YES	Clean and apply lubricant.
4	Drive Cables	Cable kinks or is damaged.	YES	Correct or change.
5	Scanner Assy	Scanner moves smoothly.	NO	Adjust the Scanner Motor timing belt. → Change bushing. → Change Scanner Motor.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change CCD Unit.

4.3.7 IR System: moire

A. Typical Faulty Images

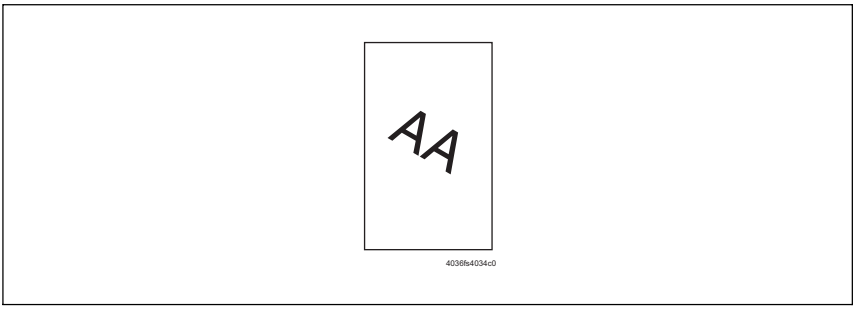


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original mode (select one other than that resulted in moire).
2	Photo/Density	Moire distortions recur even after the original mode has been changed.	YES	Select “Gradation” (mode optimized for gradation) or “Resolution” (that optimized for resolution).
3	Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

4.3.8 IR System: skewed image

A. Typical Faulty Images

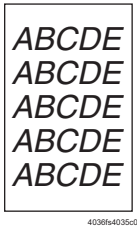


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original Glass	Original Glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
3	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

4.3.9 IR System: distorted image

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2		The Rack is tilted with a lot of play.	YES	Adjust machine leg height.
3	2nd/3rd Mirrors Carriage	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
4	Scanner Motor	Scanner Motor turns smoothly.	NO	Change belt. Change Scanner Motor.
5		The problem has been eliminated through the checks of steps up to 5.	NO	Change Scanner Assy. Change CCD Unit.

4.3.10 IR System: low image density, rough image

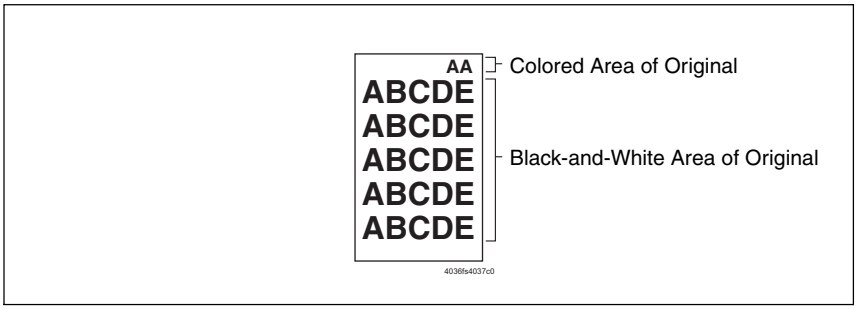
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Original	Original sticks to Original Glass.	YES	Reposition original.
2	Original Glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
3	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Mirror, lens, Exposure Lamp, and reflectors	Mirror is dirty.	YES	Clean.
5		Lens is dirty.	YES	Clean.
6		Exposure Lamp is dirty.	YES	Clean.
7		Reflectors are dirty.	YES	Clean.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Clean Exposure Lamp. → Change Scanner Assy. → Change CCD Unit.

4.3.11 IR System: defective ACS

A. Typical Faulty Images

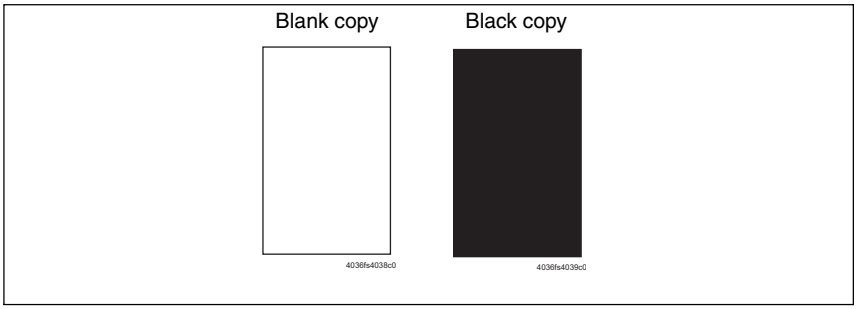


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	ACS Judgement Level Adjustment (User's Choice 2 1/3)	The problem persists even after the ACS Determination Level Adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the copier may fail to properly detect the colored area.)

4.3.12 IR System: blank copy, black copy

A. Typical Faulty Images

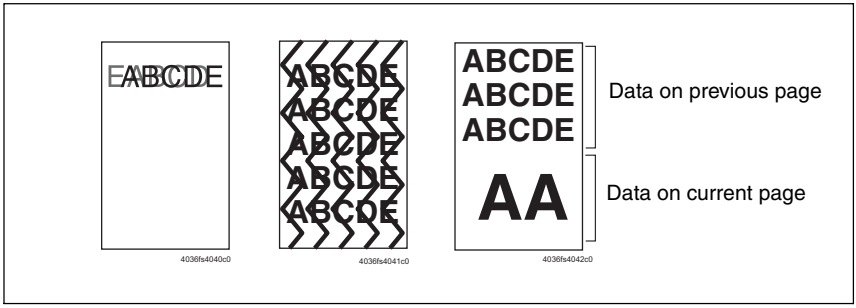


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	CCD Unit	Connectors of the CCD Unit are connected properly.	NO	Reconnect.
4	Test Print (Tech.Rep.Mode)	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change Image Processing Board.

4.3.13 IR System: abnormal image

A. Typical Faulty Images

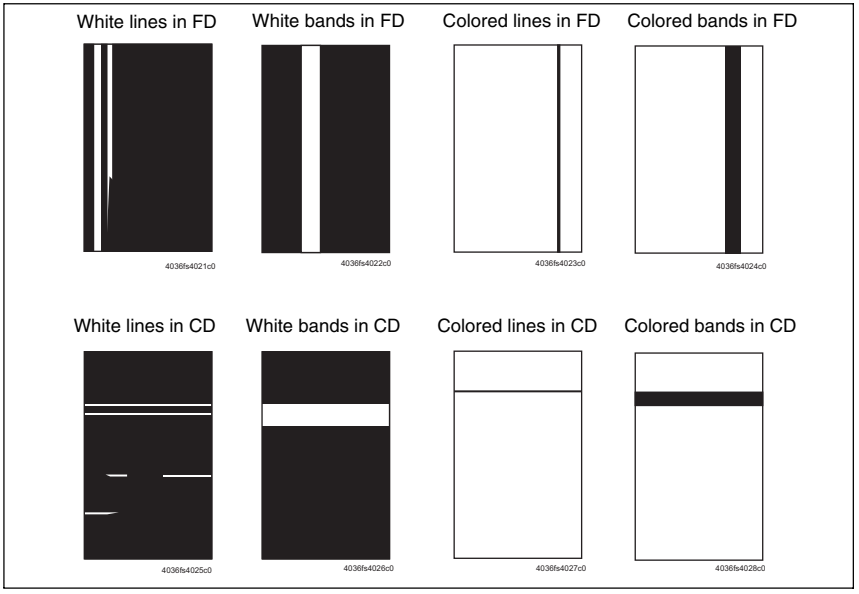


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Cable connecting Scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	Image Processing Board (PWB-C)	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
3	MFP Control Board (PWB-MFP)	Data on previous page is mixed with data on current page.	NO	Reinstall expanded memory.
4	Test Print (Tech.Rep.Mode)	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
5	Image Processing Board (PWB-C)	The problem is eliminated after the interface connection cable has been changed.	NO	Change Image Processing Board.
6	MFP Control Board (PWB-MFP)	The problem has been eliminated through the checks of steps up to 7.	NO	Change MFP Control Board.

4.3.14 Printer Monocolor: white lines in FD, white bands in FD, colored lines colored bands in FD, white lines in CD, white bands in CD, colored lines in CD, colored bands in CD

A. Typical Faulty Images

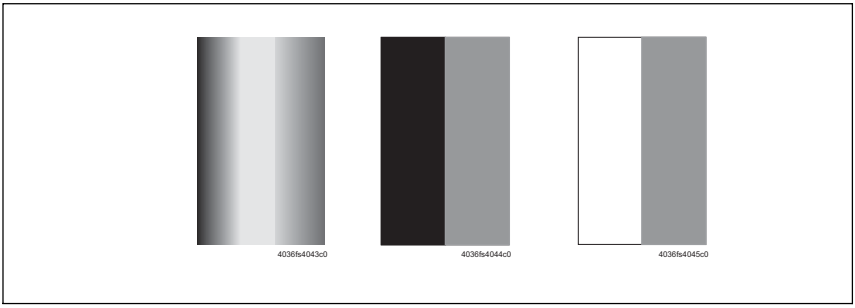


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	A white line or black line in FD is sharp.	YES	Select “Tech. Rep. Mode” → “Machine Adjust” → “LPH Chip Adjust” and run “LPH Chip Adjust.”
			NO	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Imaging Unit	Dirty on the outside.	YES	Clean.
5		Connectors and contact terminals make good connection between each IU and LPH Assy.	NO	Clean contact terminals. Reconnect.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	Image check	The problem has been eliminated through the checks of steps up to 6.	NO	Select “Tech. Rep. Mode” → “Machine Adjust” → “LPH Rank” and run “LPH Rank.”
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy.

4.3.15 Printer Monocolor: uneven density in FD

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image check	Uneven density of void area occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
2	High image density original	Uneven density in FD occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
3	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
4	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
5		Dirty on the outside.	YES	Clean.
6	LPH Assy	LED surface is dirty.	YES	Clean using the LED Cleaning Jig.
7	Image check	Monocolor uneven image (uneven high density) occurs.	YES	Select “Tech. Rep. Mode” → “Machine Adjust” → “LPH Rank” and run “LPH Rank.”
8	Image Transfer Belt Unit	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change IU. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change PIC Board. → Change LED Drive Board → Change LPH Unit. → Change High Voltage Unit (Image Transfer, Neutralizing).

4.3.16 Printer Monocolor: uneven density in CD

A. Typical Faulty Images

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B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2		Dirty on the outside.	YES	Clean.
3	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Image check	Monocolor uneven image (uneven high density) occurs.	YES	Select “Tech. Rep. Mode” → “Machine Adjust” → “LPH Rank” and run “LPH Rank.”
5	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
7		The problem has been eliminated through the checks of steps up to 5.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.17 Printer Monocolor: low image density

A. Typical Faulty Images

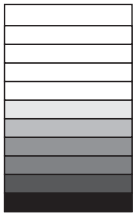
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirm → Table # (Tech. Rep. Mode)	Check data for Vg and Vb. Color Vb: Around 390 V Vg: Around 500 V Black Vb: Around 390 V Vg: Around 500 V	NO	Go to next step.
2	State Confirm → Level History 1 (Tech. Rep. Mode)	Check ATDC data.	NO	Go to next step.
3		AIDC output value is around 4.3 V.	NO	Clean AIDC Sensor. Check Image Transfer Belt for damage.
4	Level History data check results	Low ATDC and low Vg and Vb	YES	Go to step 8.
5		Low ATDC and high Vg and Vb	YES	Go to step 14.
6		ATDC falling within specified range and low Vg and Vb	YES	Go to step 8.
7		ATDC falling within specified range and high Vg and Vb	YES	Go to step 14.
8	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
9	Imaging Unit	Dirty on the outside.	YES	Clean.
10	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
11	ATDC Sensor window	The color ATDC Sensor window on the LED Assy is dirty.	YES	Clean.
12	Image Transfer Belt Unit	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
13		Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
14	Hopper Unit	Connectors are loose.	YES	Reconnect.
15		Gear is cracked.	YES	Change gear.
16		Toner empty lever and/or detecting switch are defective.	YES	Clean.

Step	Section	Check Item	Result	Action
17	Image Adjust → ATDC Toner Supply (Tech. Rep. Mode)	Toner is properly supplied when ATDC Toner Supply is run.	NO	Go to next step.
18	Image Adjust → ATDC Level Setting (Tech. Rep. Mode)	The problem has been eliminated when T/C has been increased.	NO	Go to next step.
19	Gradation Adjust (Tech. Rep. Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 23.
20	Image Adjust → PRT Max Density (Tech. Rep.Mode)	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
21	Image Adjust → PRT Highlight (Tech. Rep. Mode)	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
22	Image Adjust → Stabilizer → Reset + Stabilizer (Tech. Rep. Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
23		The problem has been eliminated through the checks of steps up to 22.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.18 Printer Monocolor: gradation reproduction failure

A. Typical Faulty Images



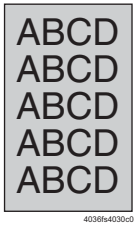
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Photo/Density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
2	LPH Assy	LED retracting lever is locked in position.	YES	Slide out the Imaging Unit and reinstall.
3	Imaging Unit	Dirty on the outside.	YES	Clean.
4	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
5	ATDC Sensor window	ATDC Sensor window is dirty.	YES	Clean.
6	State Confirm → Level History 1 (Tech. Rep. Mode)	AIDC output value is around 4.3 V.	NO	Clean AIDC Sensor. Check Image Transfer Belt for damage.
7	Gradation Adjust (Tech. Rep. Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 11.
8	Image Adjust → PRT Max Density (Tech. Rep.Mode)	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
9	Image Adjust → PRT Highlight (Tech. Rep. Mode)	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
10	Image Adjust → Stabilizer → Reset + Stabilizer (Tech. Rep. Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.

Step	Section	Check Item	Result	Action
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.19 Printer Monocolor: foggy background

A. Typical Faulty Images



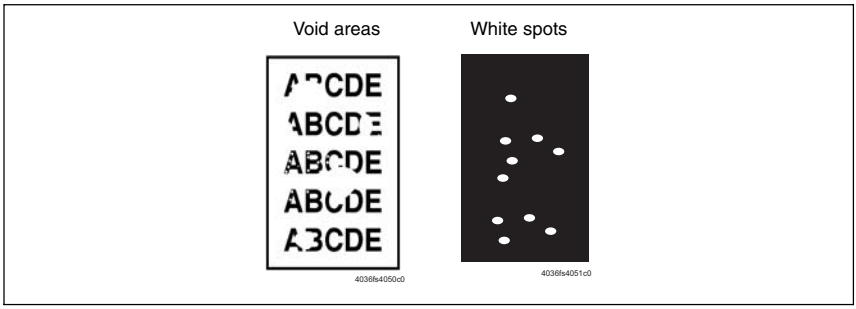
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	State Confirm → Table # (Tech. Rep. Mode)	Check data for Vg and Vb. Color Vb: Around 390 V Vg: Around 500 V Black Vb: Around 390 V Vg: Around 500 V	NO	Go to next step.
2	State Confirm → Level History 1 (Tech. Rep. Mode)	Check ATDC data.	NO	Go to next step.
3		AIDC output value is around 4.3 V.	NO	Clean AIDC Sensor. Check Transfer Belt for damage.
4	Level History data check results	Low ATDC and low Vg and Vb	YES	Go to step 8.
5		Low ATDC and high Vg and Vb	YES	Go to step 12.
6		ATDC falling within specified range and low Vg and Vb	YES	Go to step 8.
7		ATDC falling within specified range and high Vg and Vb	YES	Go to step 12.
8	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
9	Imaging Unit	Dirty on the outside.	YES	Clean.
10	LPH Assy	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
11	ATDC Sensor window	The color ATDC Sensor window on the LED Assy is dirty.	YES	Clean.
12	Image Adjust → Background Voltage Margin (Tech. Rep. Mode)	The problem is eliminated after Background Voltage Margin has been adjusted.	NO	Go to next step.
13	Gradation Adjust (Tech. Rep. Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 17.

Step	Section	Check Item	Result	Action
14	Image Adjust → PRT Max Density (Tech. Rep.Mode)	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
15	Image Adjust → PRT Highlight (Tech. Rep. Mode)	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
16	Image Adjust → Stabilizer → Reset + Stabilizer (Tech. Rep. Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
17		The problem has been eliminated through the checks of steps up to 16.	NO	Change Imaging Unit. → Change Image Transfer Belt Unit. → Change LPH Assy. → Change LED Drive Board. → Change MFP Control Board → Change LPH Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.20 Printer Monocolor: void areas, white spots

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 4-72
2		There is void area at the rear side section.	YES	Perform “2nd Transfer Adjust” of “Image Adjust” under Tech. Rep. mode.
3	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
4		Dirty on the outside.	YES	Clean.
5	Hopper Unit	Foreign matter or caked toner in the Toner Cartridge.	YES	Remove foreign matter.
6	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: “Tech. Rep. Mode” → “Image Adjust” → “Bias Voltage Choice.”
7		The problem has been eliminated through the checks of steps up to 5.	NO	Change Imaging Unit.

4.3.21 Printer Monocolor: colored spots

A. Typical Faulty Images

Colored spots

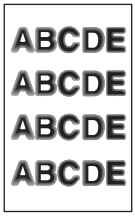
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
3		Dirty on the outside.	YES	Clean.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change Imaging Unit.

4.3.22 Printer Monocolor: blurred image

A. Typical Faulty Images

blurred image



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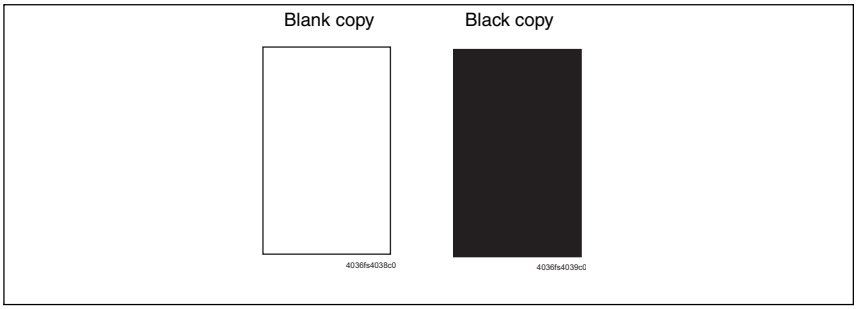
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	Image is distorted (stretched or shrunk).	YES	Select “Tech. Rep. Mode” → “Machine Adjust” → “PRT Area” → “Zoom for FD” and run “Zoom for FD.”
2	LED Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
3		The surface of the lens array is dirty.	YES	Clean with cleaning jig.
4	Imaging Unit	Dirty on the outside.	YES	Clean.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change Imaging Unit. → Change LPH Assy. → Change LPH Unit.

4.3.23 Printer Monocolor: blank copy, black copy

A. Typical Faulty Images

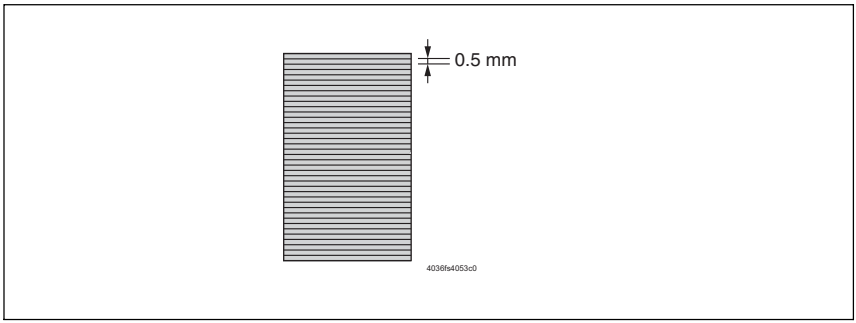


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A blank copy occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
2	Imaging Unit	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
3		The PC Drum Charge Corona voltage contact or PC Drum ground contact of the Imaging Unit is connected properly.	NO	Check, clean, or correct the contact.
4	High Voltage Unit/1 (Image Transfer, Neutralizing)	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step4.	NO	Change High Voltage Unit/1 (Image Transfer, Neutralizing). → Change MFP Control Board → Change LED Drive Board → Change LPH Unit.

4.3.24 Printer Monocolor: 0.5-mm-pitch uneven image

A. Typical Faulty Images

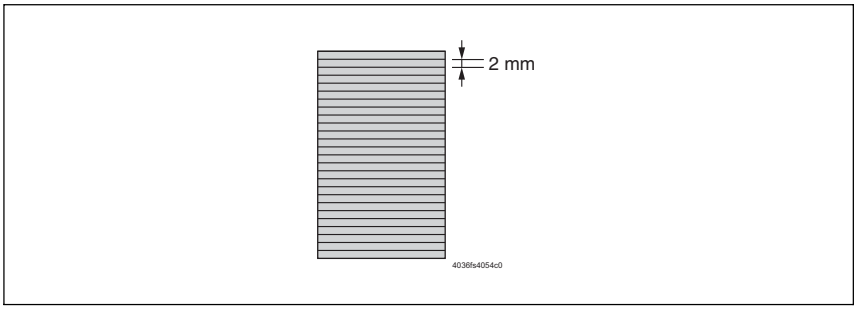


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
			YES	Change Imaging Unit.

4.3.25 Printer Monocolor: 2-mm-pitch uneven image

A. Typical Faulty Images

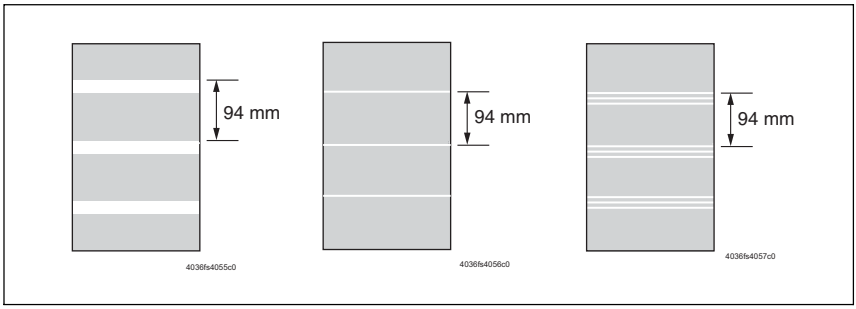


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The drive mechanisms for spent toner conveying and IU are dirty.	YES	Clean.
			NO	Change Imaging Unit.

4.3.26 Printer Monocolor: 94-mm-pitch uneven image

A. Typical Faulty Images

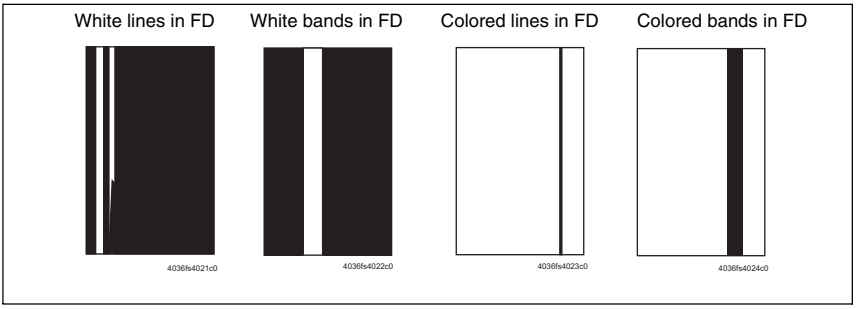


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2		Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change Imaging Unit.
3		There is play in the IU Motor.	YES	Reinstall or change the IU Motor.
4	Image Transfer Belt Unit	Image Transfer Belt Unit drive gear has chipped off.	YES	Correct. Change Image Transfer Belt Unit.
5	Image Transfer Roller Unit	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Imaging Unit.

4.3.27 Printer 4-Color: white lines in FD, white bands in FD, colored lines in FD, and colored bands in FD

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	A white line or colored line in FD.	YES	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
5	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
8	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
9	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
10		Fusing Paper Separator Fingers are dirty.	YES	Clean.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

4.3.28 Printer 4-Color: white lines in CD, white bands in CD, colored lines in CD, and colored bands in CD

A. Typical Faulty Images

White lines in CD | White bands in CD | Colored lines in CD | Colored bands in CD

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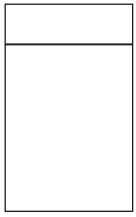
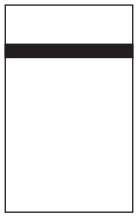

4036fs4027c0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B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
4	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
7	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
8	Fusing Unit	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean. Change Fusing Unit.
9		Fusing Paper Separator Fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

4.3.29 Printer 4-Color: uneven density in FD

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. Change Image Transfer Belt Unit.

4.3.30 Printer 4-Color: uneven density in CD

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
5		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.31 Printer 4-Color: low image density

A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change Image Transfer Roller Unit.
5	AIDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Gradation Adjust (Tech. Rep. Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 10.
7	Image Adjust → PRT Max Density (Tech. Rep.Mode)	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
8	Image Adjust → PRT Highlight (Tech. Rep. Mode)	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
9	Image Adjust → Stabilizer → Reset + Stabilizer (Tech. Rep. Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.

Step	Section	Check Item	Result	Action
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.32 Printer 4-Color: poor color reproduction

A. Typical Faulty Images

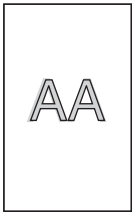
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2	Image Transfer Belt Unit	Terminal is dirty.	YES	Clean.
3	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
4		Image Transfer Roller is dirty or scratched.	NO	Change Image Transfer Roller Unit.
5	AIDC Sensor	Sensor is dirty.	YES	Clean with blower brush.
6	Gradation Adjust (Tech. Rep. Mode)	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	YES	Go to step 10.
7	Image Adjust → PRT Max Density (Tech. Rep.Mode)	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
8	Image Adjust → PRT Highlight (Tech. Rep. Mode)	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
9	Image Adjust → Stabilizer → Reset + Stabilizer (Tech. Rep. Mode)	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.

Step	Section	Check Item	Result	Action
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board → Change High Voltage Unit/2 (Developing Bias). → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.33 Printer 4-Color: incorrect color image registration

A. Typical Faulty Images



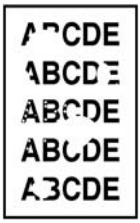
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the State Confirm screen.
2	Machine condition	Vibration is given to copier after Power Switch has been turned ON.	YES	Turn OFF and ON Power Switch.
3	LPH Assy	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
4	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
5		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
6		Drive coupling to the copier is dirty.	YES	Clean.
7	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
8	Image Transfer Roller Unit	Image Transfer Roller is installed properly.	NO	Reinstall.
9		Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
10	Machine Adjust → Fuser Speed (Tech. Rep. Mode)	Brush effect or blurred image occurs.	YES	Readjust Fuser Speed.
11	Machine Adjust → Color Shift Correction (Tech. Rep. MOde)	Check the specific color in which color shift occurs.	YES	Perform “Color Shift Correction.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
12		The problem has been eliminated through the checks of steps up to 11.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change MFP Control Board

4.3.34 Printer 4-Color: void areas, white spots

A. Typical Faulty Images

Void areas



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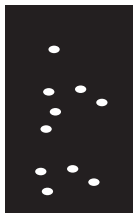
White spots



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B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	☞ 4-91
2		There are void areas in the trailing edge.	YES	Perform “2nd Transfer Adjust” of “Image Adjust” under Tech. Rep. mode.
3	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
4		Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Transfer Belt Unit if belt is damaged.
5	Transfer Roller Unit	Transfer Roller is dirty or scratched.	YES	Change Transfer Roller Unit.
6		Charge Neutralizing Cloth is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-Image Transfer Guide Plate is damaged or dirty.	YES	Clean or change.
9	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. Change Image Transfer Belt Unit.

4.3.35 Printer 4-Color: colored spots

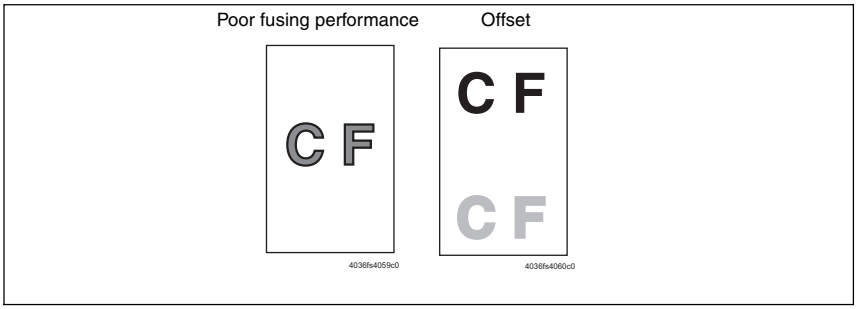
A. Typical Faulty Images

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2	Image Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
4	Image Transfer Roller Unit	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Paper Dust Remover	Paper dust accumulates on Paper Dust Remover.	YES	Clean or change.
7	Fusing Unit	Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change Fusing Unit.

4.3.36 Printer 4-Color: poor fusing performance, offset

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper type does not match the setting on the paper type setting dial.	YES	Change the setting of the paper type setting dial.
2	Machine Adjust → Fuser Temp. (Tech. Rep. Mode)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust Fuser Temp.
		The problem has been eliminated through the checks of steps up to 2.	NO	Change Fusing Unit.

4.3.37 Printer 4-Color: brush effect, blurred image

A. Typical Faulty Images

Brush effect

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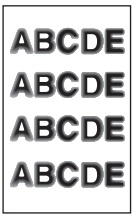
Blurred image



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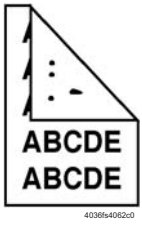
B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
2		Paper type does not match the setting on the paper type setting dial.	YES	Change the setting of the paper type setting dial.
3	Fusing Unit	Fusing Entrance Guide Plate is dirty.	YES	Clean.
4		Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
5	Machine Adjust → Fuser Speed (Tech. Rep. Mode)	Changing fusing speed eliminates the problem of brush effect and blurred image.	YES	Readjust Fuser Speed.
		The problem has been eliminated through the checks of steps up to 5.	NO	Change Fusing Unit.

4.3.38 Printer 4-Color: back marking

A. Typical Faulty Images



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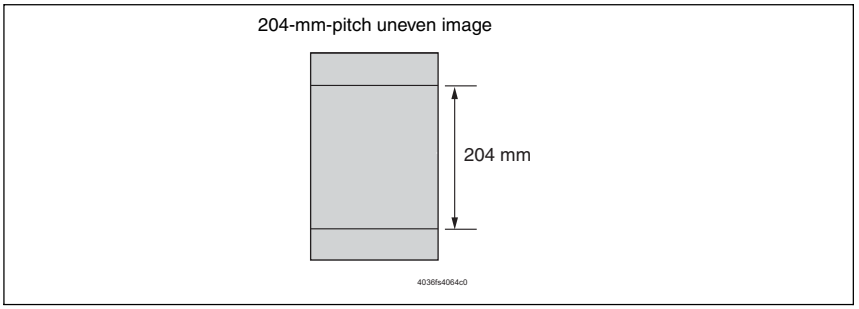
4036fs4063c0

B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Image Transfer Roller Unit	Image Transfer Roller is scratched or dirty.	YES	Change Image Transfer Roller Unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing Unit	Fusing Entrance Guide Plate is scratched or dirty.	YES	Clean or change.
4		Lower Fusing Roller is scratched or dirty.	YES	Change Fusing Unit.
5	Transfer Belt Unit	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See Maintenance.)
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. → Change Image Transfer Belt Unit. → Change Fusing Unit. → Change High Voltage Unit/1 (Image Transfer, Neutralizing).

4.3.39 Printer 4-Color: 204-mm-pitch uneven image

A. Typical Faulty Images

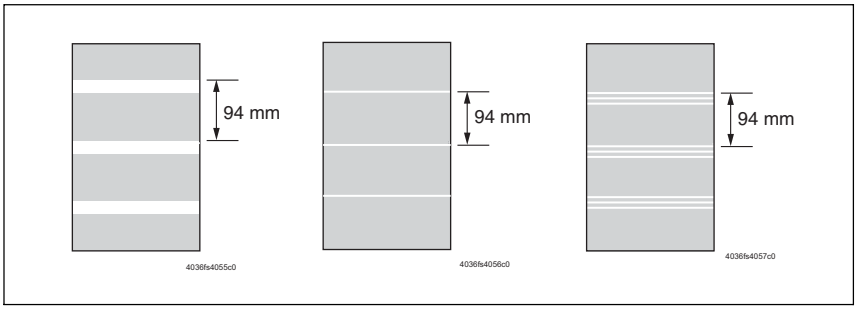


B. Troubleshooting Procedure

Step	Section	Check Item	Result	Action
1	Fusing Unit	The Fusing Belt is scratchy.	YES	Change Fusing Unit.

4.3.40 Printer 4-Color: 94-mm-pitch uneven image

A. Typical Faulty Images



B. Troubleshooting Procedure

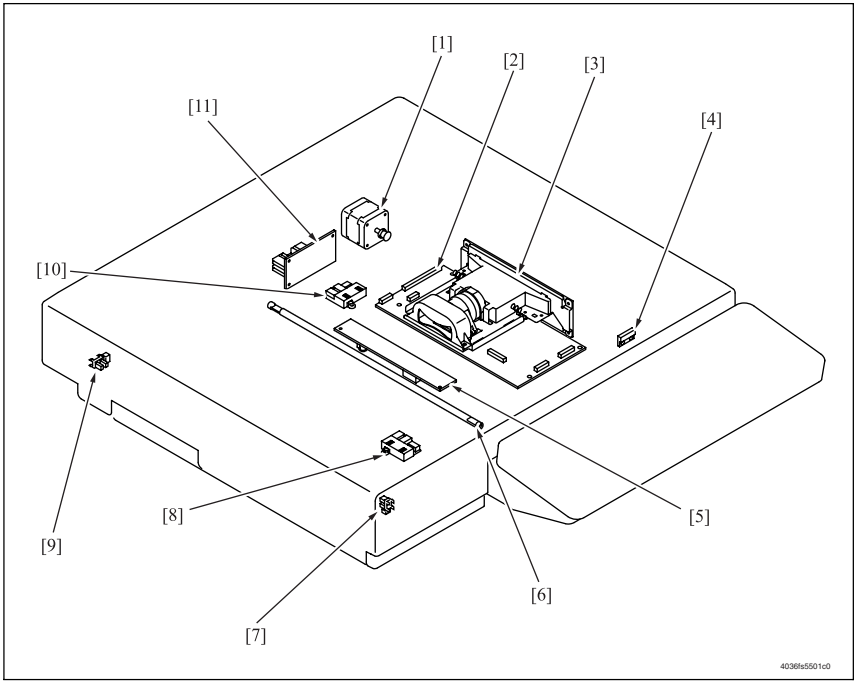
Step	Section	Check Item	Result	Action
1	Imaging Unit	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
2	Image Transfer Belt Unit	The Image Transfer Belt Unit drive gear is intact.	NO	Correct. Change Image Transfer Belt Unit.
3	Image Transfer Roller Unit	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.

V Appendix

1. Parts layout drawing

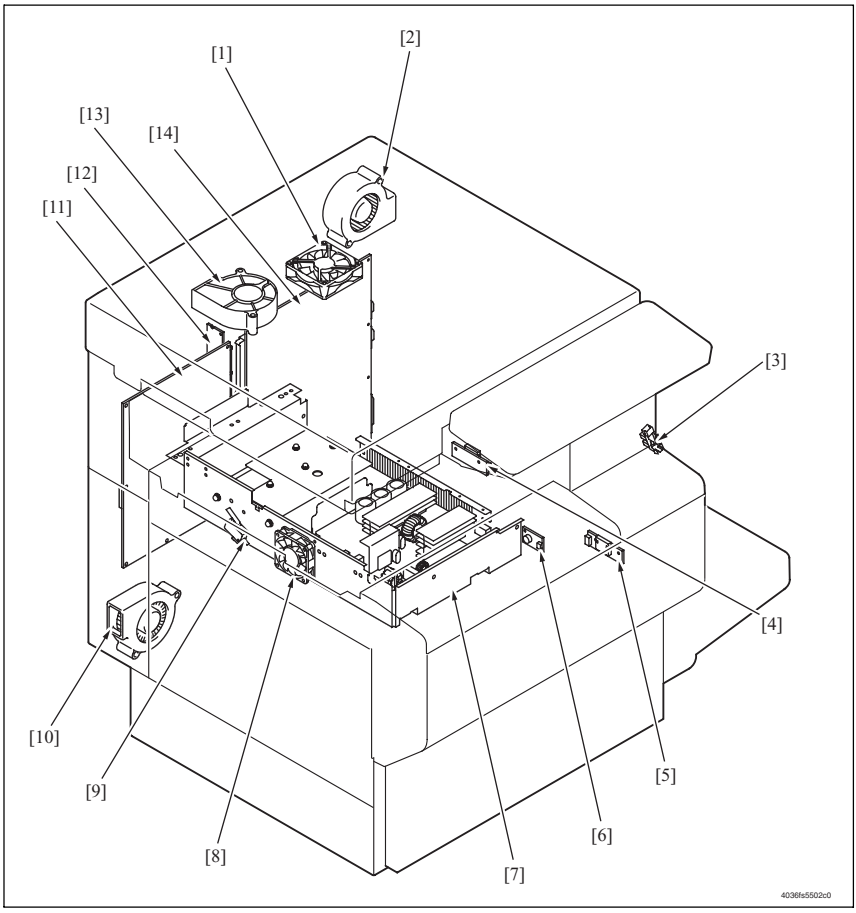
1.1 Main unit

1.1.1 IR section

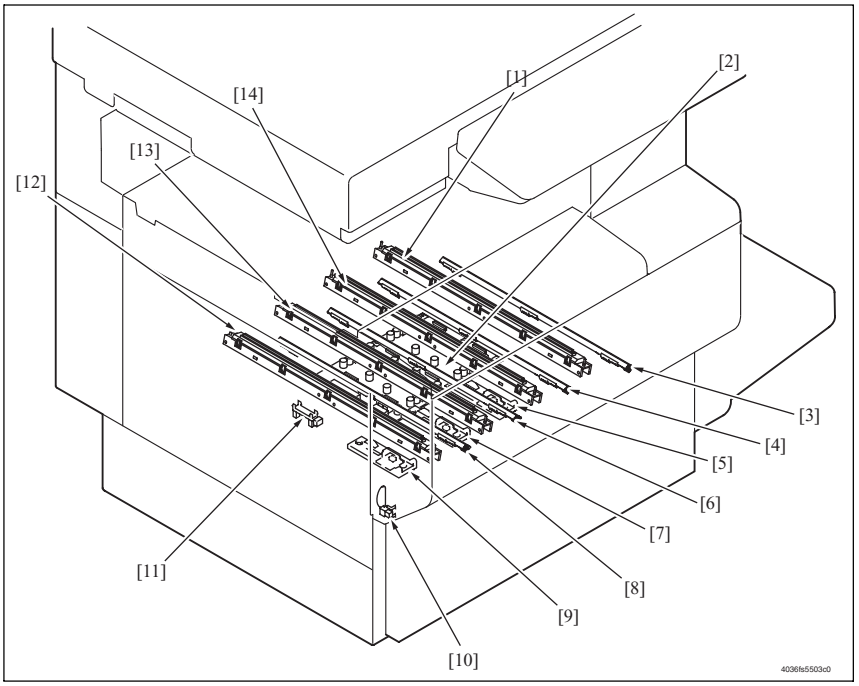


[1] Scanner Motor (M201)
[2] Image Processing Board (PWB-C)
[3] CCD Sensor Board (PWB-A)
[4] Size Reset Switch (SW201)
[5] Inverter Board (PU201)
[6] Exposure Lamp (FL201)
[7] Scanner Home Sensor (PC201)
[8] Original Size Sensor CD (PC206)
[9] Original Cover Angle Sensor (PC202)
[10] Original Size Sensor FD2 (PC204)
[11] Scanner Motor Drive Board (PWB-IC)

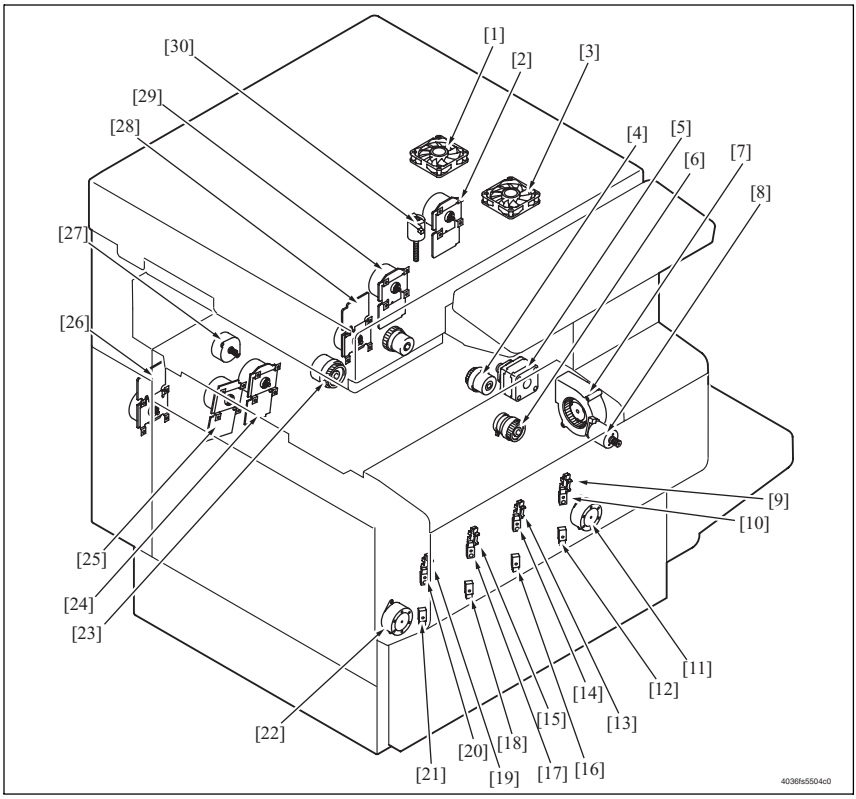
1.1.2 Engine section



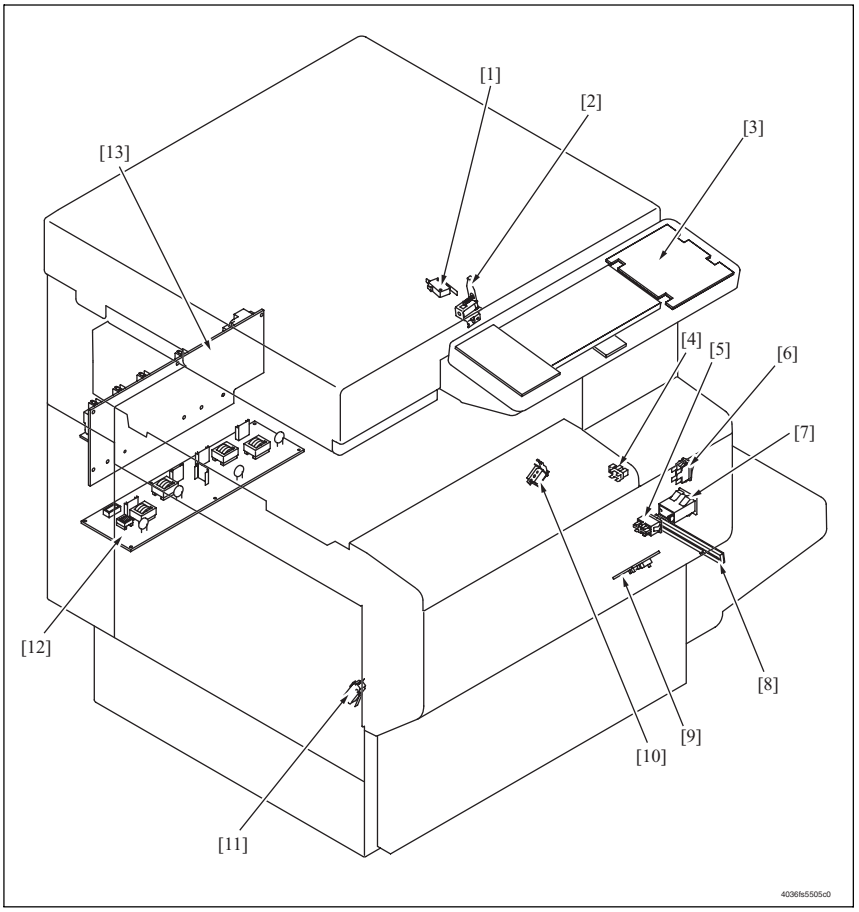
[1] Cooling Fan Motor/2 (M10)
[2] Fusing Cooling Fan Motor/1 (M9)
[3] Fusing Pressure/Retraction Sensor (PC33)
[4] AIDC/Registration Sensor/2 (PC9)
[5] AIDC/Registration Sensor/1 (PC8)
[6] Temperature/humidity Sensor (PC7)
[7] DC Power Supply (PU1)
[8] Power Supply Cooling Fan Motor (M21)
[9] Left Door Switch (SW3)
[10] Ozone Ventilation Fan Motor (M18)
[11] Control Board (PWB-MC)
[12] Standard Memory (DIMMS0)
[13] Toner Suction Fan Motor (M20)
[14] MFP Control Board (PWB-MFP)



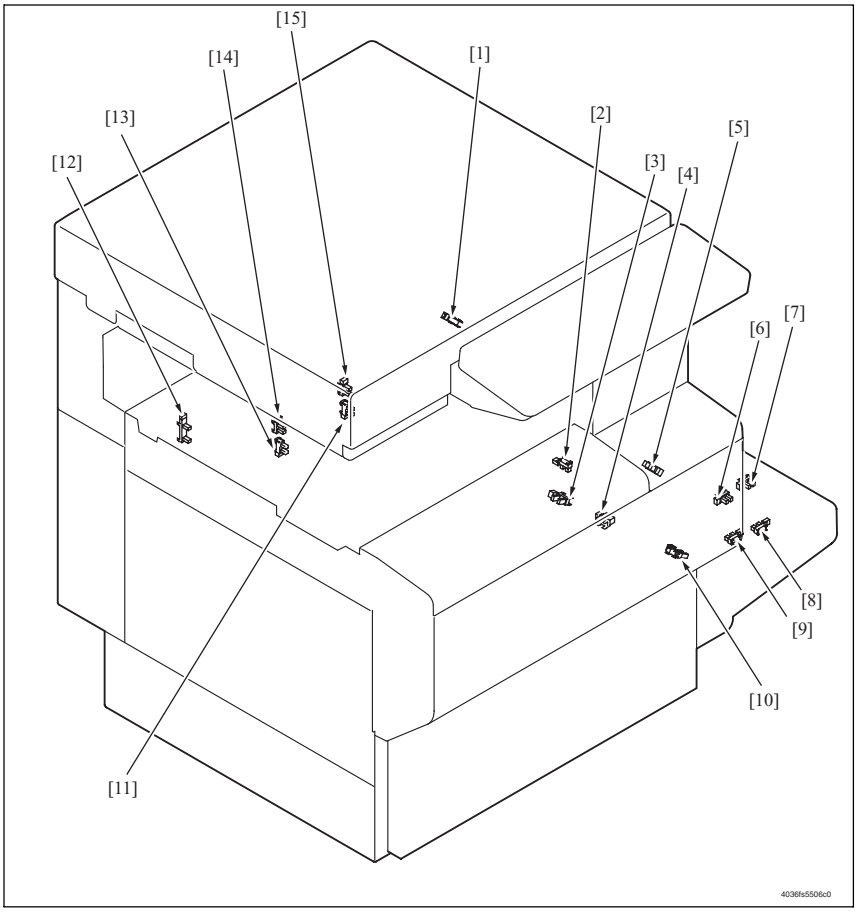
[1] LPH Assy/Bk (LPH Bk)
[2] LED Drive Board (PWB-LED)
[3] Main Erase Lamp/Bk (LA4)
[4] Main Erase Lamp/C (LA3)
[5] ATDC Sensor/C (PWB-N3)
[6] Main Erase Lamp/M (LA2)
[7] ATDC Sensor/M (PWB-N2)
[8] Main Erase Lamp/Y (LA1)
[9] ATDC Sensor/Y (PWB-N1)
[10] Waste Toner Bottle Set Sensor (PC32)
[11] Weste Toner Full Sensor (PC31)
[12] LPH Assy/Y (LPH Y)
[13] LPH Assy/M (LPH M)
[14] LPH Assy/C (LPH C)



[1]	Fusing Cooling Fan Motor/2 (M15)	[16]	Toner Near-Empty Sensor PQ/C (PC17)
[2]	Fusing Drive Motor (M2)	[17]	Toner Near-Empty Sensor LED/M (PC22)
[3]	Fusing Cooling Fan Motor/3 (M16)	[18]	Toner Near-Empty Sensor PQ/M (PC16)
[4]	Synchronizing Roller Clutch (CL3)	[19]	Toner Set Sensor/Y (PC25)
[5]	Intermediate Transport Motor (M14)	[20]	Toner Near-Empty Sensor LED/Y (PC21)
[6]	Bypass Paper Feed Clutch (CL101)	[21]	Toner Near-Empty Sensor PQ/Y (PC15)
[7]	Suction Fan Motor(M12)	[22]	Toner Supply Motor Y/M (M4)
[8]	2nd Image Transfer Pressure/Retraction Motor (M13)	[23]	Developing Clutch/Bk (CL2)
[9]	Toner Set Sensor/Bk (PC20)	[24]	Color PC Drum Motor (M5)
[10]	Toner Near-Empty Sensor LED/Bk (PC24)	[25]	Color Developing Motor (M6)
[11]	Toner Supply Motor C/Bk (M3)	[26]	Cleaning Brush Motor (M22)
[12]	Toner Near-Empty Sensor PQ/Bk (PC18)	[27]	1st Image Transfer Pressure/Retraction Motor (M11)
[13]	Toner Set Sensor/C (PC19)	[28]	Bk PC Motor (M7)
[14]	Toner Near-Empty Sensor LED/C (PC23)	[29]	Main Motor (M1)
[15]	Toner Set Sensor/M (PC26)	[30]	Fusing Pressure Roller Pressure/Retraction Motor (M19)

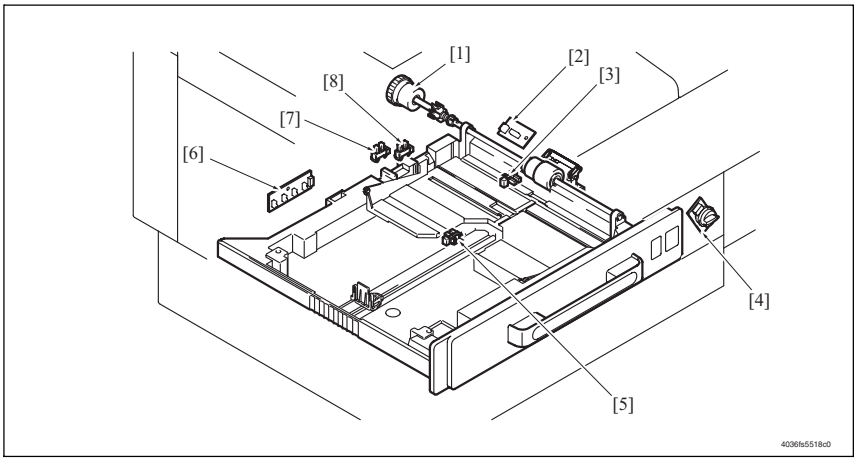


[1] Right Door Switch (SW2)
[2] Fusing Paper Loop Control Solenoid (SL1)
[3] Control Panel (UN201)
[4] Fusing Paper Loop Sensor (PC4)
[5] Upper Right Door Switch (SW5)
[6] Power Switch (SW1)
[7] Total Counter (CNT1)
[8] Bypass Paper Size Unit (VR1)
[9] Tech. Rep. Setting Switches Board (PWB-S1)
[10] Bypass Paper Pick-Up Solenoid (SL101)
[11] Front Door Switch (SW4)
[12] High Voltage Unit/2 (HV2)
[13] High Voltage Unit/1 (HV1)



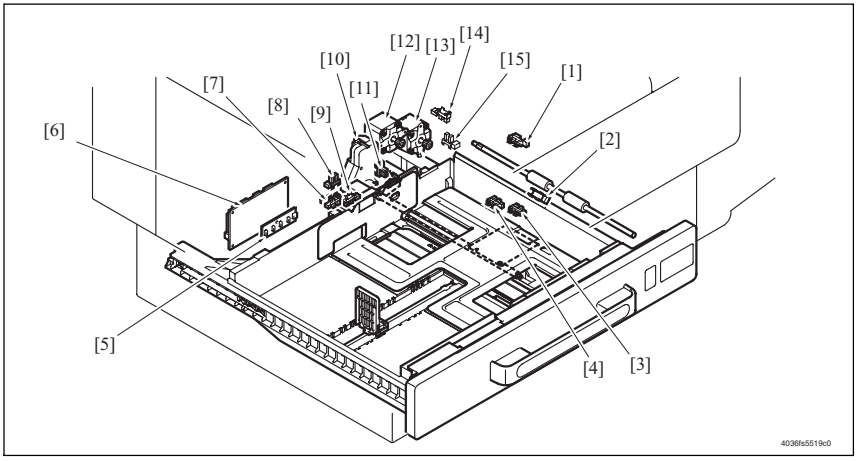
[1] Fusing Retraction Position Sensor (PC34)
[2] Synchronizing Roller Sensor (PC28)
[3] 2nd Image Transfer Pressure /Retraction Sensor (PC29)
[4] OHP Sensor (PC27)
[5] Exit Sensor (PC30)
[6] Bypass FD Paper Size Sensor/4 (PC114)
[7] Bypass FD Paper Size Sensor/3 (PC113)
[8] Bypass FD Paper Size Sensor/1 (PC111)
[9] Bypass FD Paper Size Sensor/2 (PC112)
[10] Bypass Paper Empty Sensor (PC110)
[11] Bk PC Drum Main Sensor (PC11)
[12] 1st Image Transfer Retraction (PC12)
[13] Color PC Drum Main Sensor (PC10)
[14] Color PC Drum Sub Sensor (PC35)
[15] Bk PC Drum Sub Sensor (PC36)

1.1.3 Tray 1



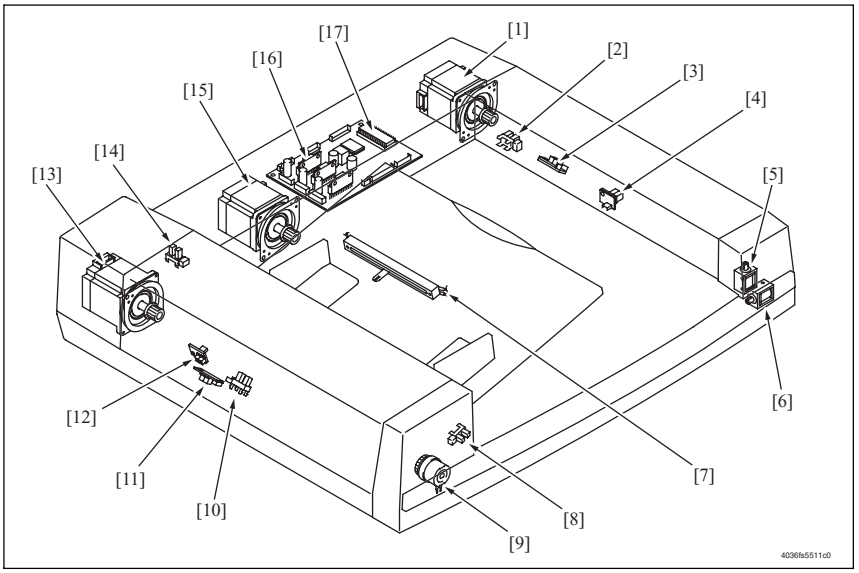
[1] Tray1 Paper Feed Clutch (CL1)
[2] Tray1 Double Feed Sensor (PC1)
[3] Tray1 Paper Empty Sensor (PC2)
[4] Paper Type Board (PWB-S)
[5] Tray1 CD Paper size Sensor (PC3)
[6] Tray1 Paper Size Board (PWB-I1)
[7] Tray1 Paper Near-Empty Sensor (PC13)
[8] Tray1 Set Sensor (PC14)

1.1.4 Tray 2



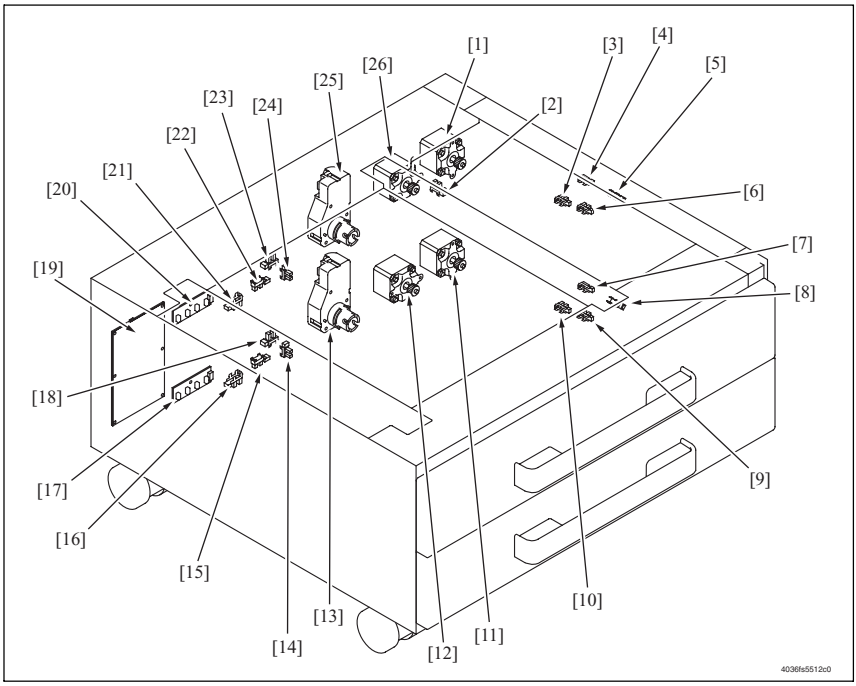
[1] Tray2 Vertical Transport Sensor (PC108)
[2] Tray2 Paper Take-Up Sensor (PC107)
[3] Tray2 Paper Empty Sensor (PC106)
[4] Tray2 Lift-Up Sensor(PC105)
[5] Tray2 Paper Size Board (PWB-I2)
[6] Tray2 Board (PWB-Z)
[7] Tray2 CD Paper Size Sensor/L (PC102)
[8] Tray2 Set Sensor (PC103)
[9] Tray2 CD Paper Size Sensor/S (PC101)
[10] Tray2 Lift-Up Motor (M101)
[11] Tray2 Paper Near-Empty Sensor (PC104)
[12] Tray2 Paper Feed Motor (M102)
[13] Tray2 Vertical Transport Motor (M103)
[14] Bypass Lift-Up Sensor (PC115)
[15] Tray2 Door Set sensor (PC109)

1.2 DF-601 (Option)



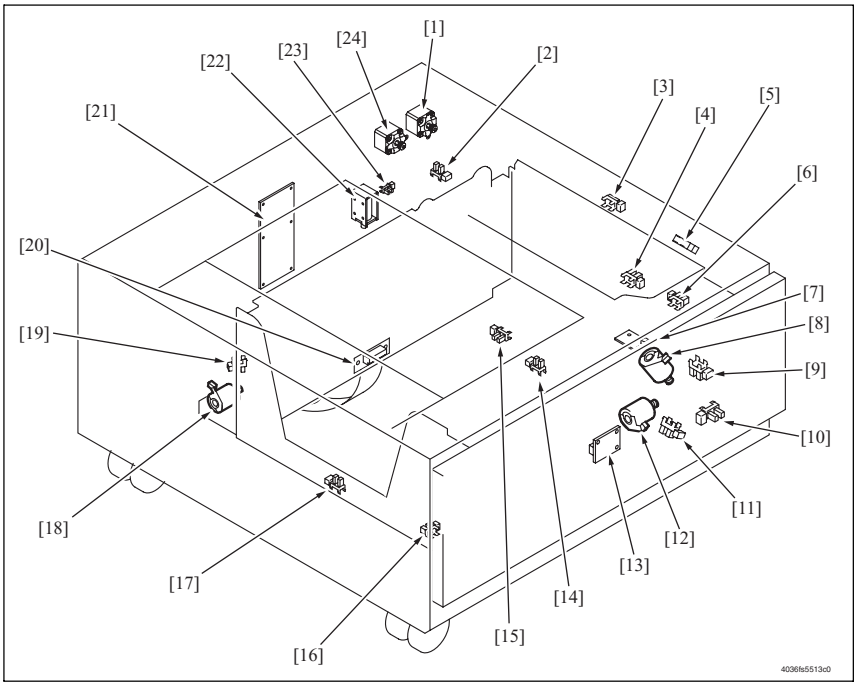
[1] Exit Motor (M3-DF)
[2] Exit Cover Sensor (PC7-DF)
[3] Exit Sensor (PC6-DF)
[4] Turnover Sensor (PC5-DF)
[5] Exit Solenoid (SL2-DF)
[6] Turnover Solenoid (SL1-DF)
[7] Document Size Volume (R1-DF)
[8] Tray Open/Close Sensor (PC8-DF)
[9] Registration Clutch (CL1-DF)
[10] Empty Sensor (PC4-DF)
[11] Pick-up Sensor (PC2-DF)
[12] Registration Sensor (PC1-DF)
[13] Take-up Motor (M1-DF)
[14] Take-up Cover Sensor (PC3-DF)
[15] Transport Motor (M2-DF)
[16] Control Board (PWB-A DF)
[17] ROM (IC7-DF)

1.3 PC101/PC102 (Option)



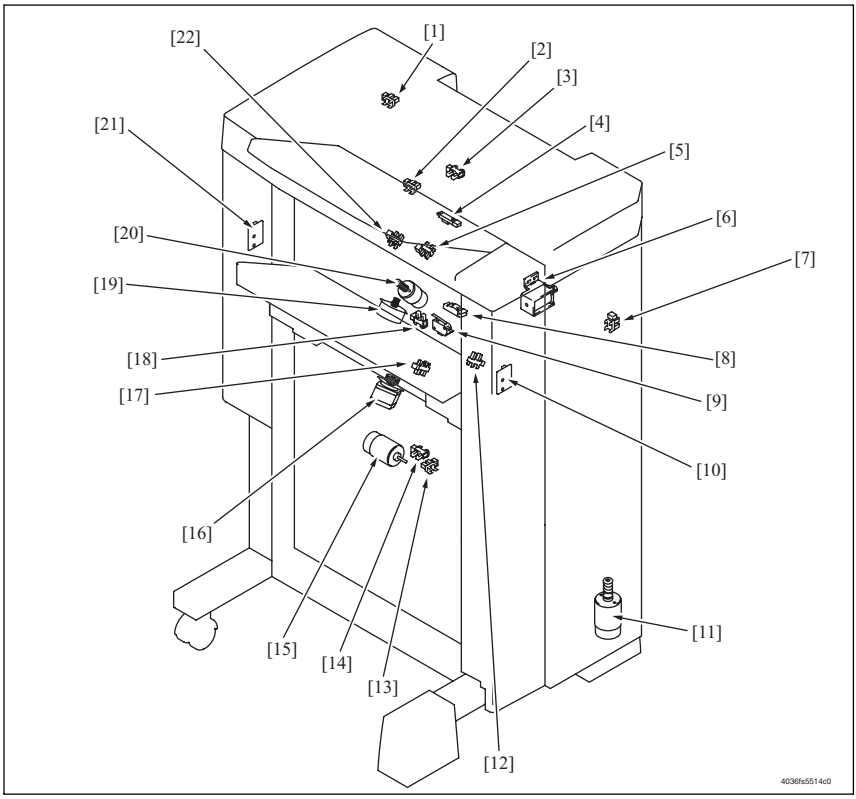
[1]	Tray3 Transport Roller Motor (M120-PF)	[14]	Tray4 Paper Near-Empty Sensor (PC122-PF)
[2]	Door Set Sensor (PC111-PF)	[15]	Tray4 CD Paper Size Sensor 2 (PC128-PF)
[3]	Tray3 Lift-Up Upper Limit Sensor (PC114-PF)	[16]	Tray4 CD Paper Size Sensor 1 (PC127-PF)
[4]	Tray3 Vertical Transport Sensor (PC117-PF)	[17]	Tray4 FD Paper Size Detection Board (PWB-I4 PF)
[5]	Tray3 Paper Take-Up Sensor (PC116-PF)	[18]	Tray4 Set Sensor (PC121-PF)
[6]	Tray3 Paper Empty Sensor (PC115-PF)	[19]	Main Control Board (PWB-C2 PF)
[7]	Tray4 Vertical Transport Sensor (PC126-PF)	[20]	Tray3 FD Paper Size Detection Board (PWB-I3 PF)
[8]	Tray4 Paper Take-Up Sensor (PC125-PF)	[21]	Tray3 CD Paper Size Sensor 1 (PC118-PF)
[9]	Tray4 Paper Empty Sensor (PC124-PF)	[22]	Tray3 CD Paper Size Sensor 2 (PC119-PF)
[10]	Tray4 Lift-Up Sensor (PC123-PF)	[23]	Tray3 Set Sensor (PC112-PF)
[11]	Tray4 Transport Roller Motor (M121-PF)	[24]	Tray3 Paper Near-Empty Sensor (PC113-PF)
[12]	Tray4 Paper Feed Motor (M123-PF)	[25]	Lift-Up Motor 1 (M124-PF)
[13]	Tray4 Lift-Up Motor (M125-PF)	[26]	Tray3 Paper Feed Motor (M122-PF)

1.4 PC-401 (Option)

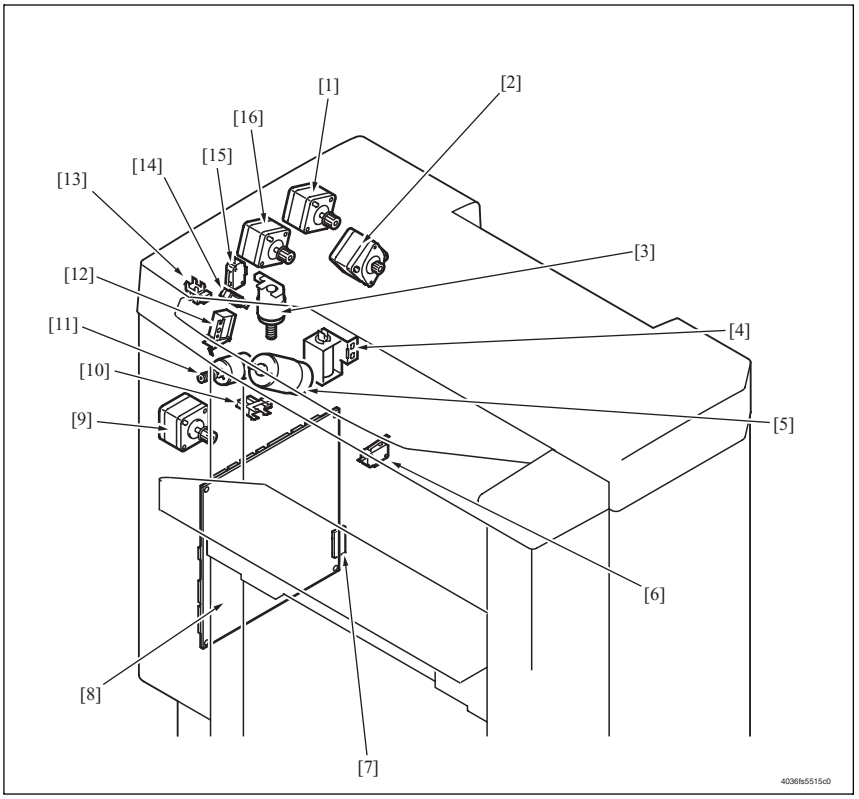


[1]	Transport Roller Motor (M2-LCT)	[13]	Paper Descent Key (UN1-LCT)
[2]	Right Lower Door Sensor (PC5-LCT)	[14]	Shifter Return Position Sensor (PC11-LCT)
[3]	LCT Vertical Transport Sensor (PC2-LCT)	[15]	Tray Lower Position Sensor (PC13-LCT)
[4]	Tray Upper Limit Sensor (PC4-LCT)	[16]	Shift Tray Paper Empty Sensor (PC9-LCT)
[5]	Paper Feed Sensor (PC1-LCT)	[17]	Shifter Home Position Sensor (PC12-LCT)
[6]	Upper Paper Empty Sensor (PC3-LCT)	[18]	Shift Gate Motor (M3-LCT)
[7]	Paper Empty Board (PWB-E LCT)	[19]	Shift Gate Home Position Sensor (PC14-LCT)
[8]	Elevator Motor (M5-LCT)	[20]	Interface Board (PWB-H LCT)
[9]	Elevator Motor Pulse Sensor (PC10-LCT)	[21]	Main Control Board (PWB-C1 LCT)
[10]	Lower Limit Sensor (PC7-LCT)	[22]	Tray Lock Solenoid (SL1-LCT)
[11]	Shift Motor Pulse Sensor (PC8-LCT)	[23]	Tray Set Sensor (PC6-LCT)
[12]	Shift Motor (M4-LCT)	[24]	Paper Feed Motor (M1-LCT)

1.5 FS-501 (Option)

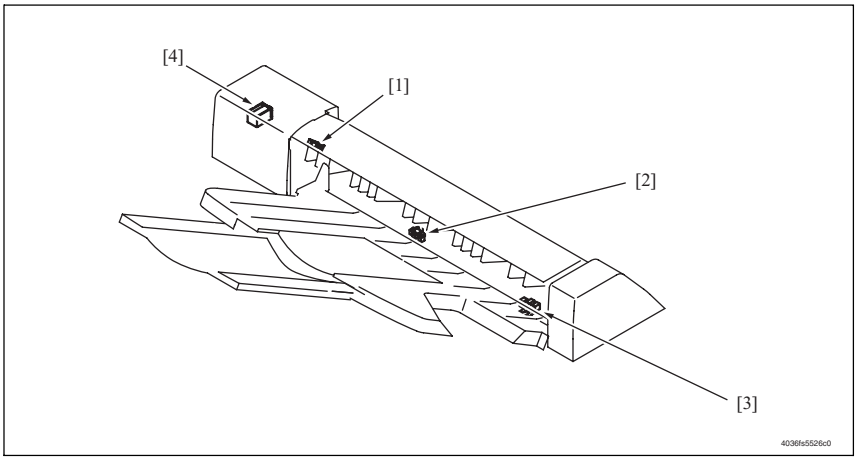


[1]	Upper Cover Sensor (PC18-FN)	[12]	CD Aligning Home Position Sensor (PC9-FN)
[2]	1st Tray Full Sensor (PC6-FN)	[13]	Shift Home Position Sensor (PC10-FN)
[3]	1st Tray Exit Sensor (PC1-FN)	[14]	Shift Motor Pulse Sensor (PC11-FN)
[4]	Lower Entrance Sensor (PC2-FN)	[15]	Shift Motor (M8-FN)
[5]	Storage Sensor (PC3-FN)	[16]	Stapling Unit Moving Motor (M6-FN)
[6]	1st Tray Entrance Switching Solenoid (SL2-FN)	[17]	Staple Home Position Sensor (PC14-FN)
[7]	Front Door Sensor (PC17-FN)	[18]	Elevator Tray Paper Sensor (PC8-FN)
[8]	Finisher Tray Paper Sensor (PC5-FN)	[19]	CD Aligning Motor (M5-FN)
[9]	Elevator Tray Upper Limit Switch (S2-FN)	[20]	Lower Paddle Motor (M9-FN)
[10]	Elevator Tray Upper Limit Sensor LED (PWB-C FN)	[21]	Elevator Tray Upper Limit Sensor PQ (PWB-D FN)
[11]	Elevator Motor (M7-FN)	[22]	Upper Entrance Sensor (PC4-FN)



[1]	Upper Entrance Motor (M4-FN)	[9]	Exit Motor (M3-FN)
[2]	Entrance Motor (M1-FN)	[10]	Storage Roller Home Position Sensor (PC12-FN)
[3]	Exit Roller/Rolls Spacing Motor (M13-FN)	[11]	Upper Paddle Motor (M15-FN)
[4]	Upper/Lower Entrance Switching Solenoid (SL1-FN)	[12]	Upper Paddle Solenoid (SL3-FN)
[5]	Storage Roller/Rolls Spacing Motor (M12-FN)	[13]	Elevator Tray Full Sensor (PC7-FN)
[6]	Set Switch (S1-FN)	[14]	Exit Roller Home Position Sensor (PC13-FN)
[7]	ROM (IC3-FN)	[15]	Elevator Tray Lower Limit Switch (S3-FN)
[8]	Control Board (PWB-A FN)	[16]	Lower Entrance Motor (M2-FN)

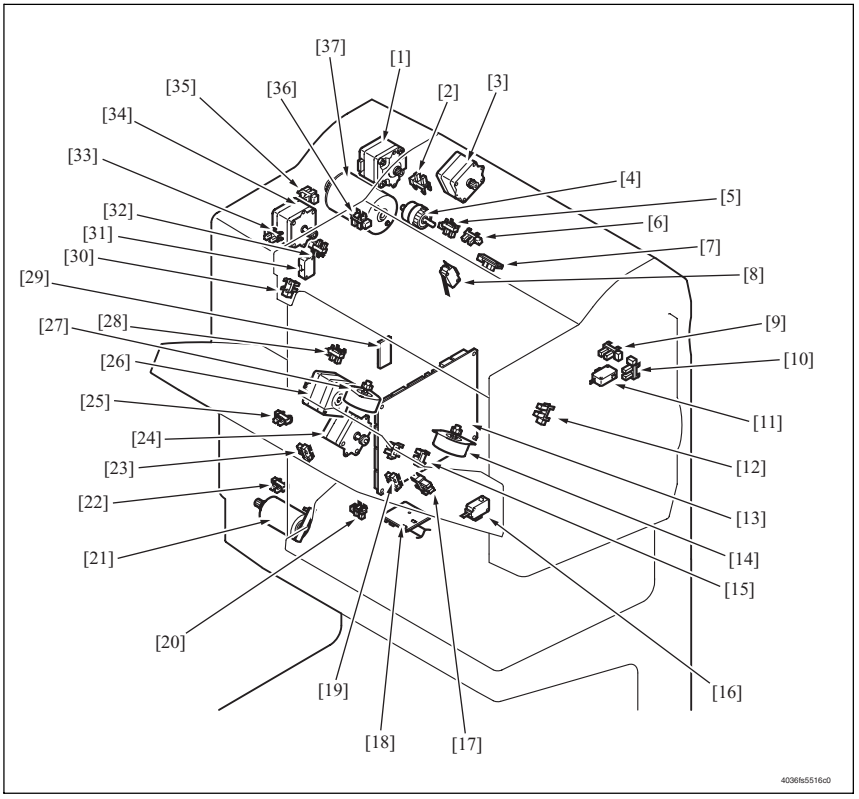
1.6 JS-601 (Option)



[1] Job Tray Cover Sensor (PC21-FN)
[2] Job Tray Exit Sensor (PC19-FN)
[3] Job Tray Full Sensor (PC20-FN)
[4] 3rd Entrance Switching Solenoid (SL-4)

1.7 FS-601 (Option)

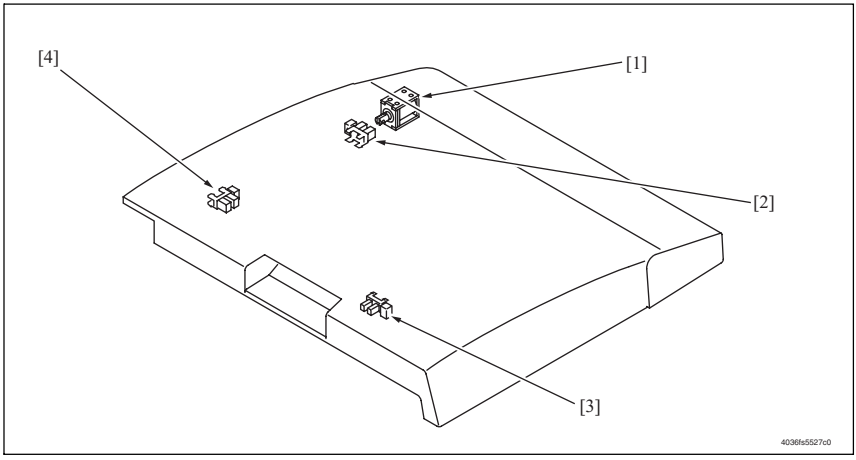
1.7.1 Main unit



[1]	Transport Motor (M1-FN)	[20]	Saddle Tray Sensor (PI13-FN)
[2]	Entrance Sensor (PI1-FN)	[21]	Shift Motor (M6-FN)
[3]	Entrance Motor (M9-FN)	[22]	Shift Motor Clock Sensor (PI17-FN)
[4]	Saddle Clutch (CL1-FN)	[23]	Stack Full Sensor (PI24-FN)
[5]	Folding Roller Home Position Sensor (PI12-FN)	[24]	Slide Motor (M8-FN)
[6]	Folding Home Position Sensor (PI11-FN)	[25]	Shift Lower Limit Sensor (PI16-FN)
[7]	Folding Position Sensor (PI10-FN)	[26]	Exit Motor (M3-FN)
[8]	Joint Open Switch (MS2-FN)	[27]	Rear Aligning Motor (M5-FN)
[9]	Upper Cover Open Sensor (PI23-FN)	[28]	Exit Belt Home Position Sensor (PI7-FN)
[10]	Front Door Open Sensor (PI22-FN)	[29]	ROM (IC6-FN)
[11]	Front Door Open Switch (MS1-FN)	[30]	Rear Aligning Plate Home Position Sensor (PI5-FN)
[12]	Front Aligning Plate Home Position Sensor (PI4-FN)	[31]	Staple Safety Switch (Rear) (MS3-FN)
[13]	Finisher Control Board (PWB-A FN)	[32]	Paddle Home Position Sensor (PI2-FN)

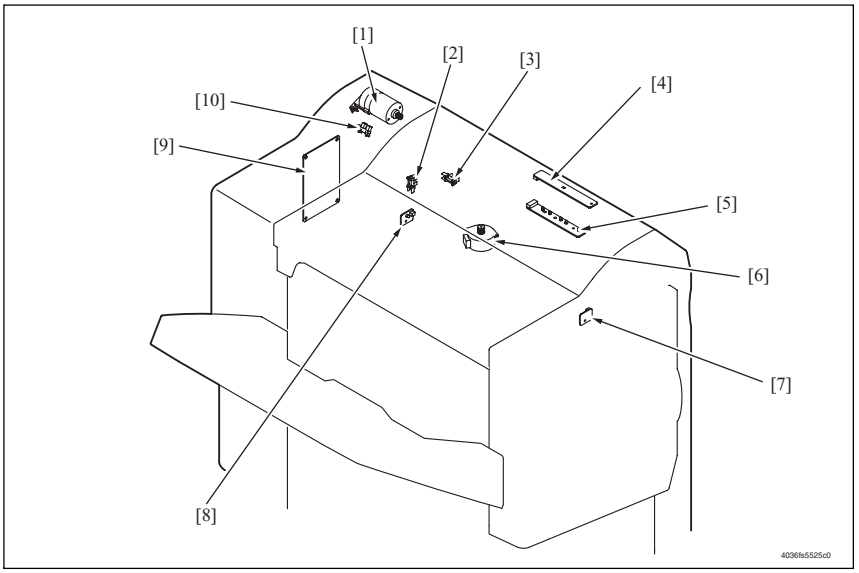
[14] Front Aligning Motor (M4-FN)
[15] Finisher Tray Sensor (PI6-FN)
[16] Staple Safety Switch (Front) (MS4-FN)
[17] Exit Tray Sensor (PI8-FN)
[18] Slide Home Position Sensor (PI18-FN)
[19] Exit Tray Home Position Sensor (PI9-FN)
[33] Shift Upper Limit Sensor (PI15-FN)
[34] Paddle Motor (M2-FN)
[35] Staple/Folding Motor Clock Sensor (PI14-FN)
[36] Swing Guide Home Position Sensor (PI3-FN)
[37] Staple/Folding Motor (M7-FN)

1.7.2 Horizontal Transport Unit



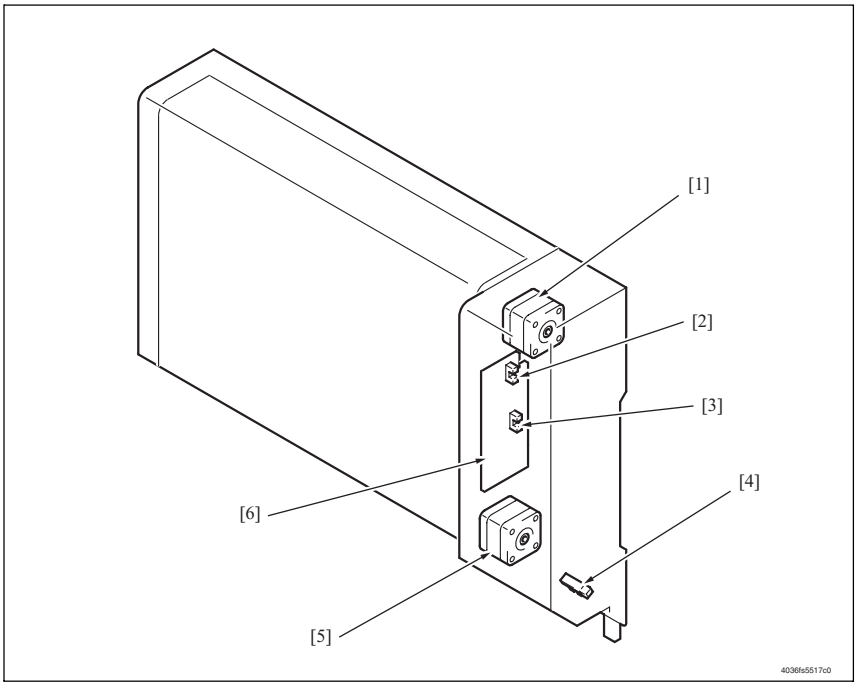
[1] Entrance Switching Solenoid (SL1-HO)
[2] Turnover Empty Sensor (PC6-HO)
[3] Paper Sensor (PC1-HO)
[4] Horizontal Unit Door Sensor (PC4-HO)

1.8 PK-501 (Option)



[1] Punch Motor (M1P-PK)
[2] Side Registration Home Sensor (PI2P-PK)
[3] Punch Motor Clock Board (PI3P-PK)
[4] Photo Sensor Board (PWB-C PK)
[5] LED Board (PWD-D PK)
[6] Side Registration Motor (M2P-PK)
[7] Punch Trash Full LED Board (PWB-F PK)
[8] Punch Trash Full Photo Sensor Board (PWB-E PK)
[9] Punch Control Board (PWB-B PK)
[10] Punch Home Position Sensor (PI1P-PK)

1.9 AD-501 (Option)



[1] Switchback Motor (M1-DU)

[2] Duplex Unit Door Set Sensor (in PWB-A) (PI2-DU)

[3] Duplex Unit Transport Sensor 1 (in PWB-A) (PI1-DU)

[4] Duplex Unit Transport Sensor 2 (PC1-DU)

[5] Duplex Unit Transport Motor (M2-DU)

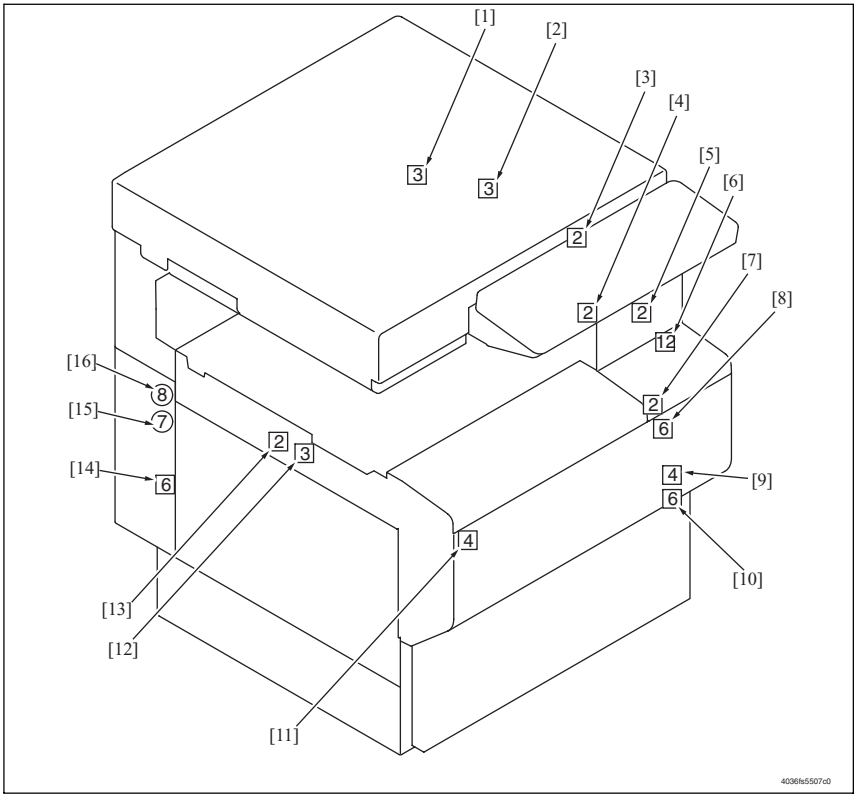
[6] Duplex Control Board (PWB-A DU)

2. Connector layout drawing

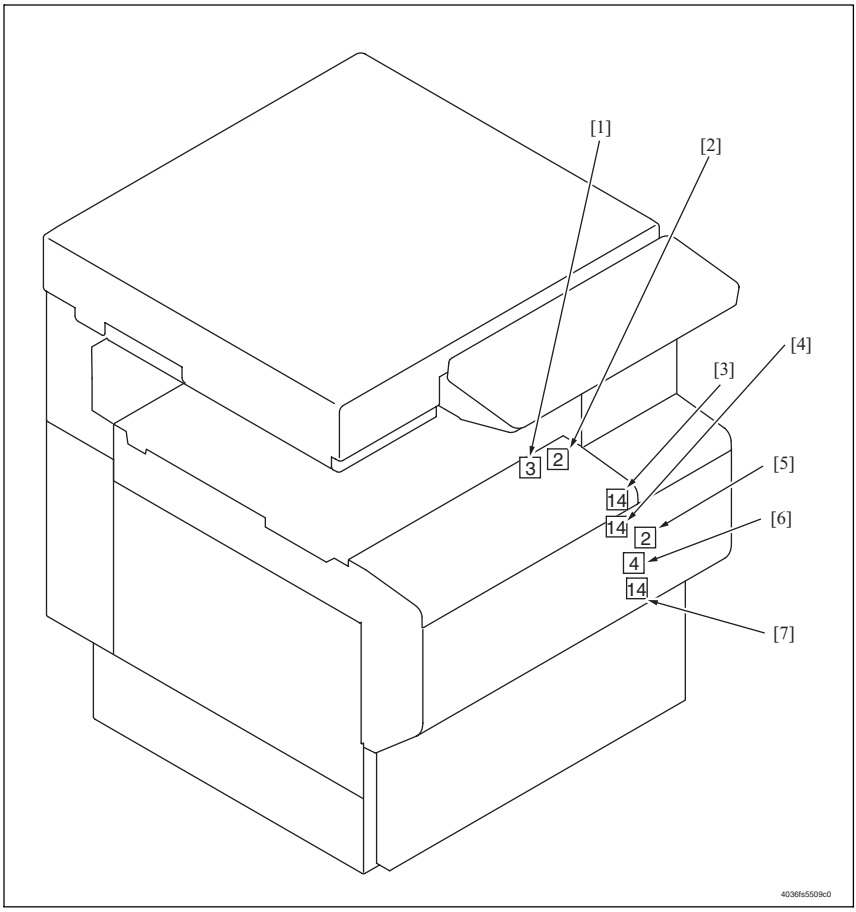
Description

Number of Pin → ① Possible to confirm by removing external cover.

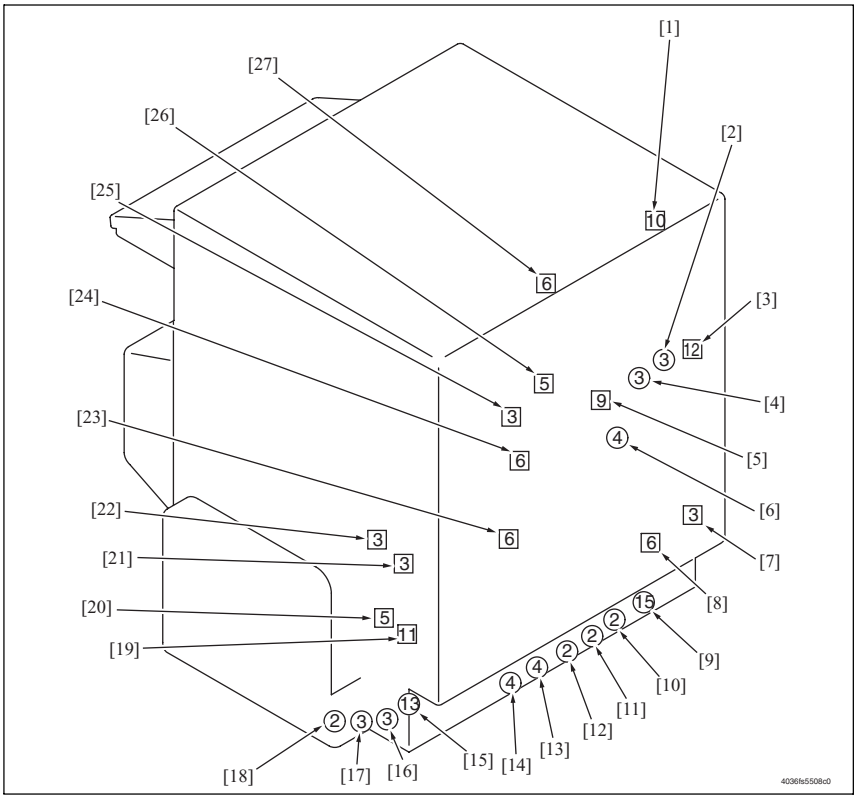
→ [1] Not possible to confirm by removing external cover.



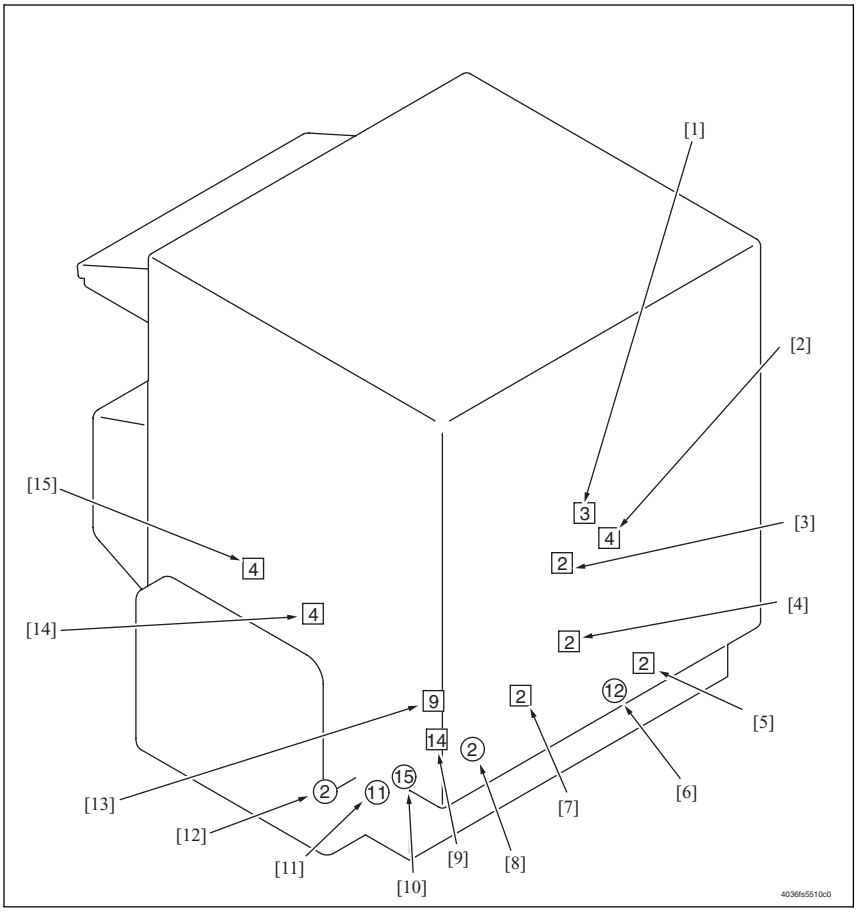
No.	CN No.		Location	No.	CN No.		Location
[1]	CN31	3P	I-3	[9]	CN47	4P	K-7
[2]	CN32	3P	J-3	[10]	CN4	6P	O-7
[3]	CN54	2P	Y-21	[11]	CN39	4P	J~K-18
[4]	CN5	2P	O-3	[12]	CN40	3P	F~G-23
[5]	CN37	2P	L-3	[13]	CN7	2P	P~S-25
[6]	CN35	12P	K~L-3	[14]	CN41	6P	M~N-20
[7]	CN61	2P	S-25	[15]	Blank	7P	-
[8]	CN9	6P	J-18	[16]	CN60	8P	M~N-25



No.	CN No.		Location	No.	CN No.		Location
[1]	CN44	3P	G~H-3	[5]	CN58	2P	T~U-25
[2]	CN45	2P	H~I-3	[6]	CN8	4P	I-18
[3]	CN18	14P	B~C-18	[7]	CN10	14P	Q~R-25
[4]	CN19	14P	D~E-18				



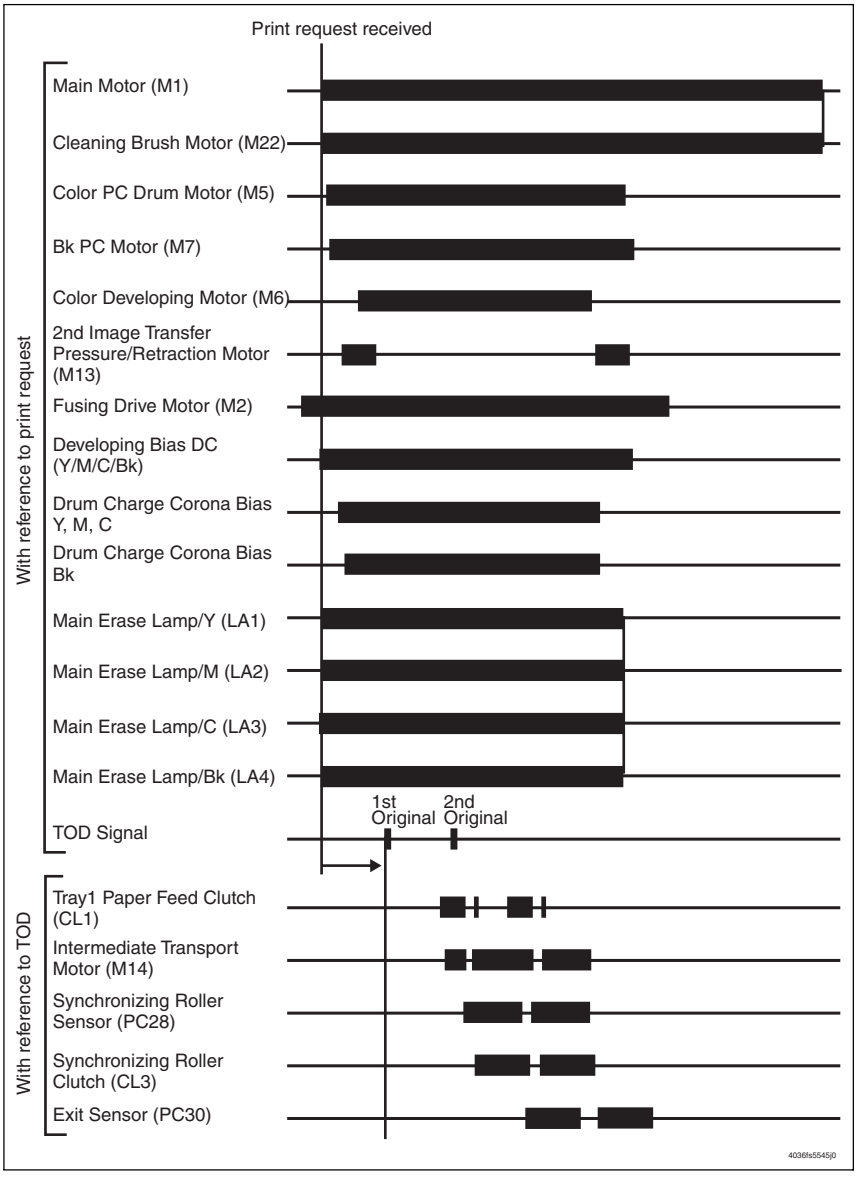
No.	CN No.		Location	No.	CN No.		Location
[1]	CN52	10P	K~L-25	[15]	CN105	13P	D~E-3
[2]	CN1	3P	G-22	[16]	CN103	3P	A-3
[3]	CN20	12P	M~N-27	[17]	CN108	3P	E-3
[4]	CN2	3P	H-22	[18]	CN106	2P	C~D-3
[5]	Blank	9P	-	[19]	CN42	11P	K~L-27
[6]	Blank	4P	-	[20]	CN43	5P	L-27
[7]	CN13	3P	V-25	[21]	CN25	3P	P~Q-7
[8]	Blank	6P	-	[22]	CN21	3P	S-2~3
[9]	CN56	15P	W~X-7	[23]	CN15	6P	H~I-18
[10]	CN28	2P	J-26	[24]	CN14	6P	G-18
[11]	CN48	2P	Y-7	[25]	CN17	3P	K-17
[12]	CN49	2P	J-26	[26]	CN11	3P	V-25
[13]	CN101	4P	V-3	[27]	CN53	6P	W~X-24
[14]	CN102	4P	V-3				



No.	CN No.		Location	No.	CN No.		Location
[1]	CN22	3P	U-25	[9]	CN24	14P	R~S-3~4
[2]	CN57	4P	R-7	[10]	CN6	15P	X~Y-3
[3]	CN5	2P	O-3	[11]	CN104	11P	B~C-3
[4]	CN12	2P	D-13	[12]	CN107	2P	D~E-3
[5]	CN26	2P	S~T-2~3	[13]	CN27	9P	P~Q-3~4
[6]	CN71	12P	I~J-26	[14]	CN29	4P	Q-3
[7]	CN3	2P	K~L-7	[15]	CN23	4P	C-7
[8]	CN34	2P	U-3				

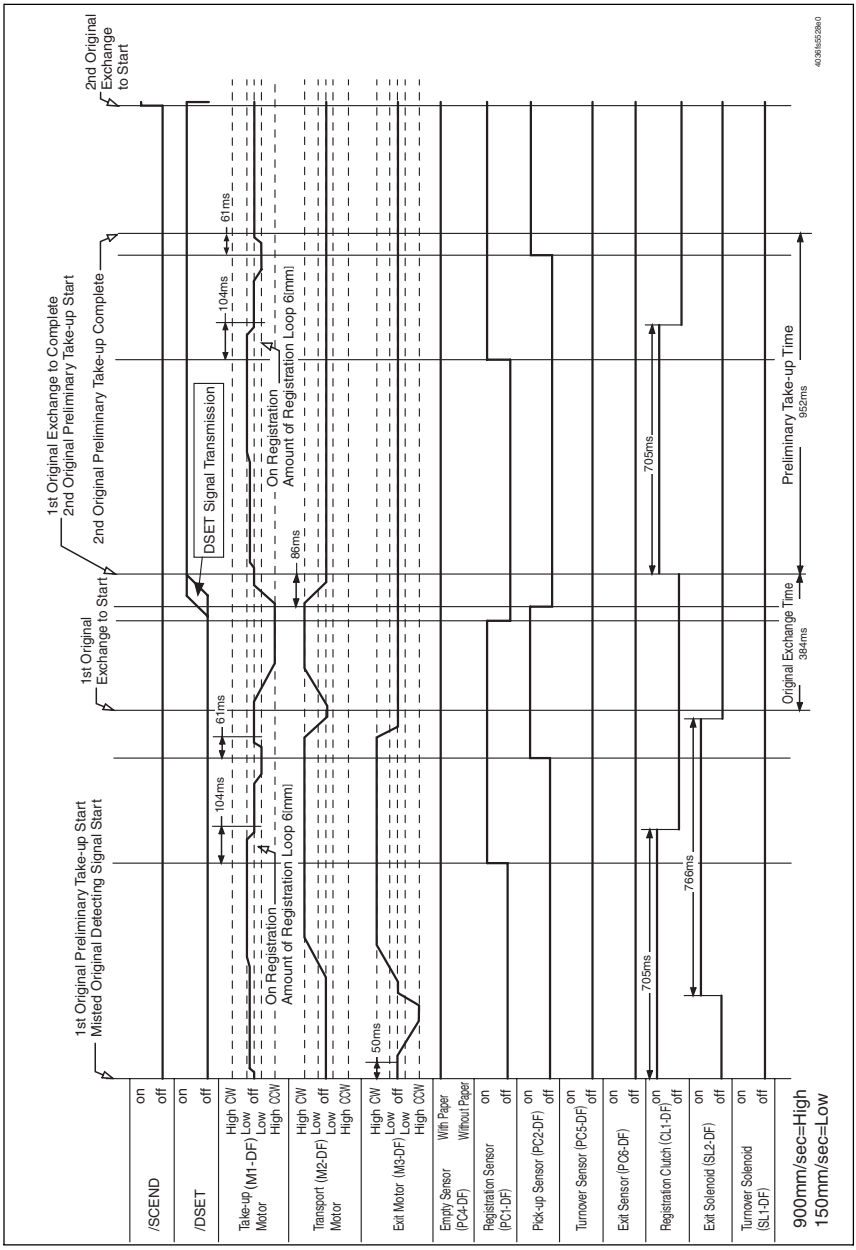
3. Timing chart

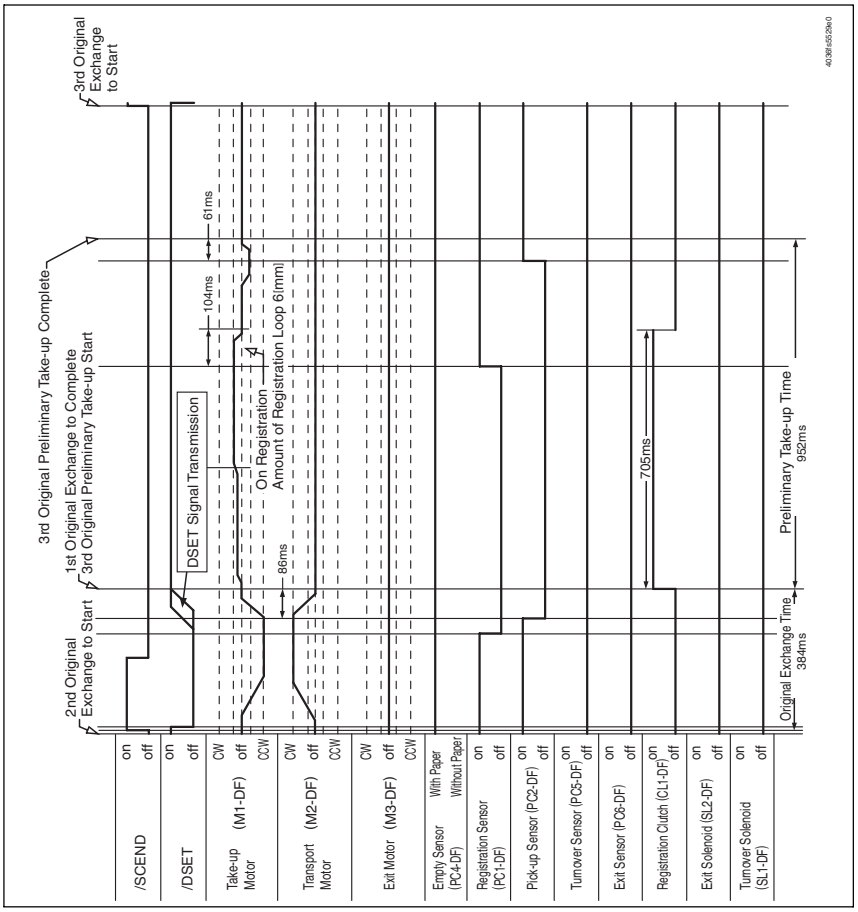
3.1 Main unit

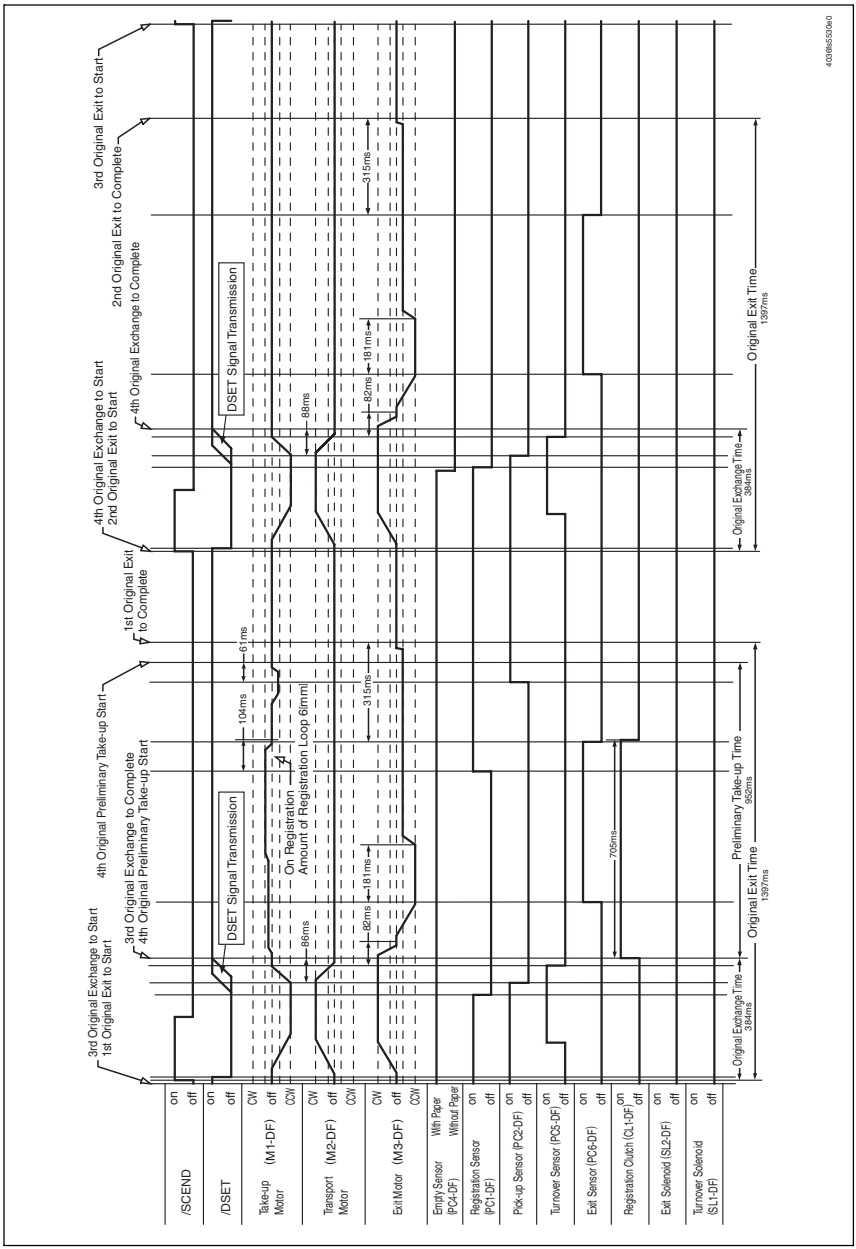


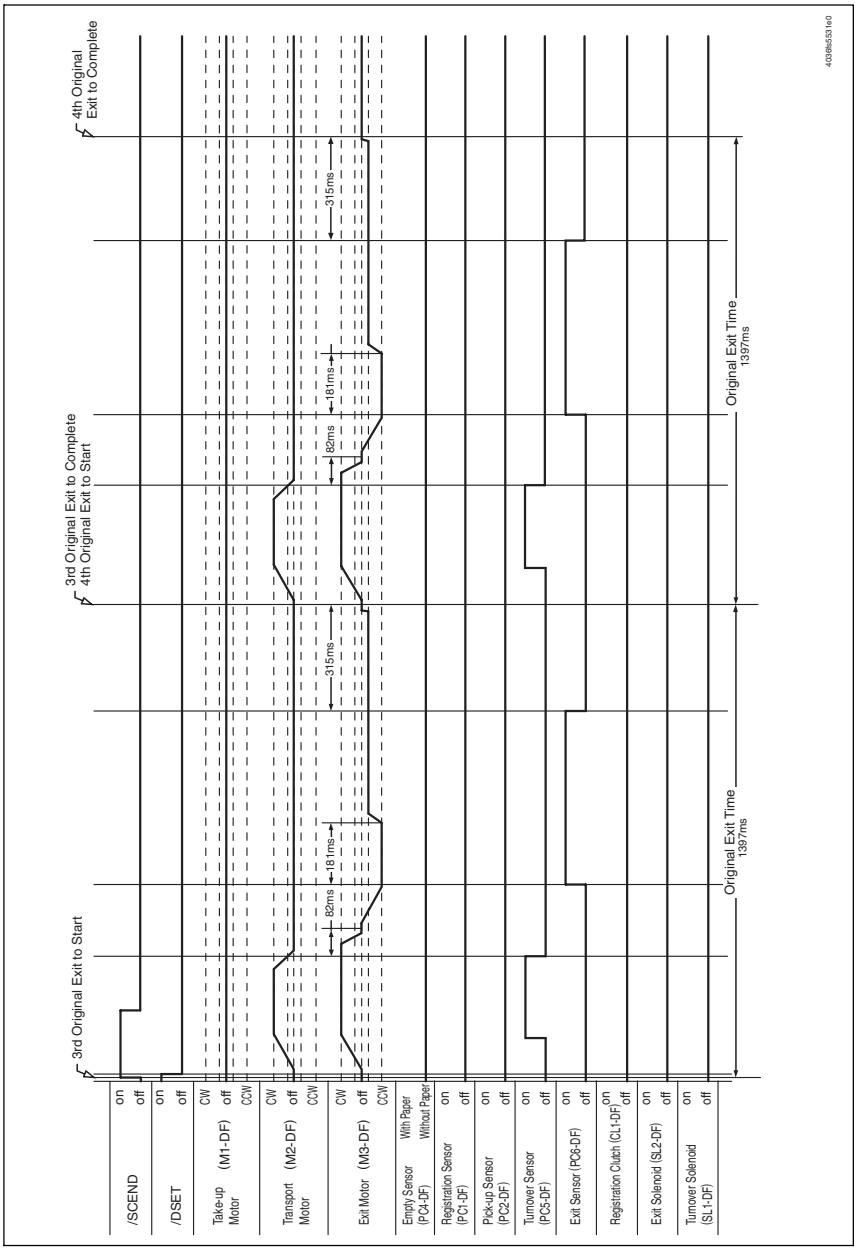
3.2 DF-501

3.2.1 1-sided mode

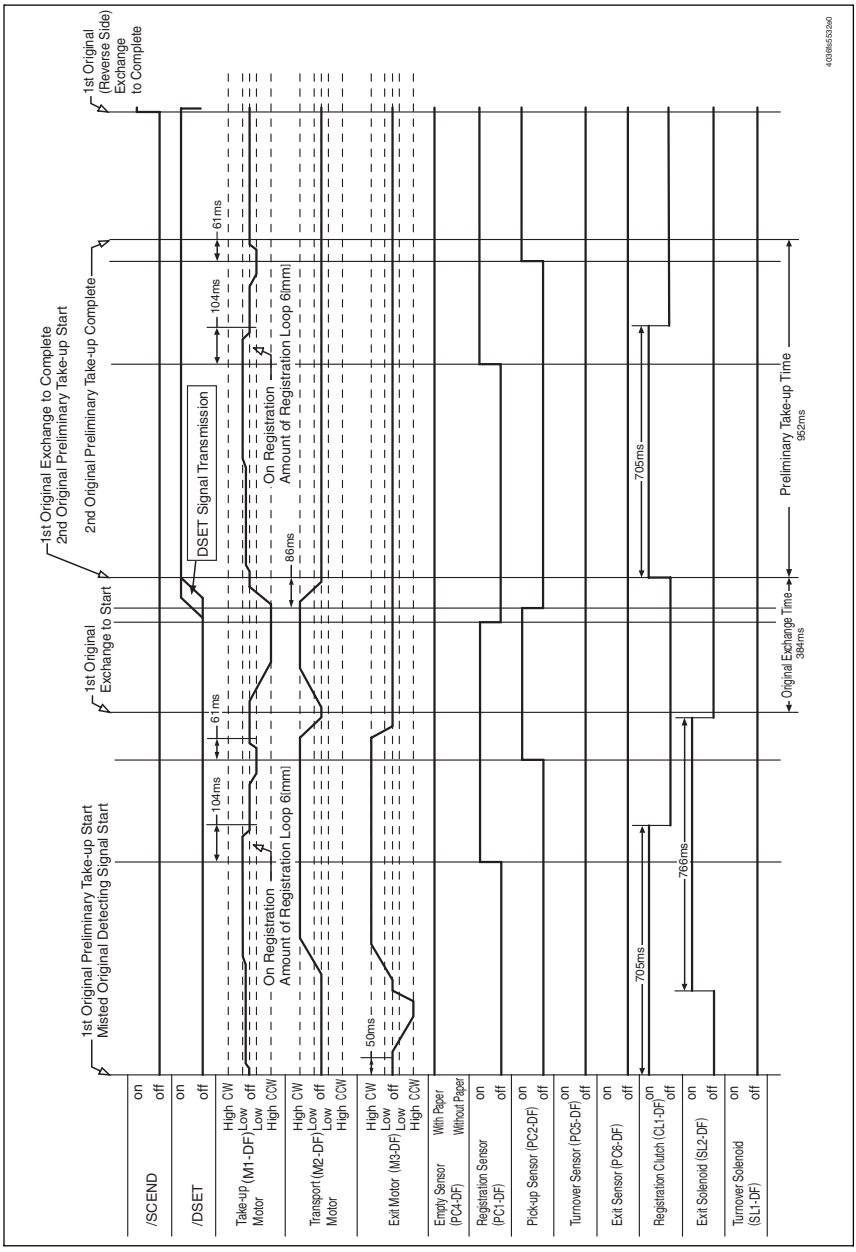


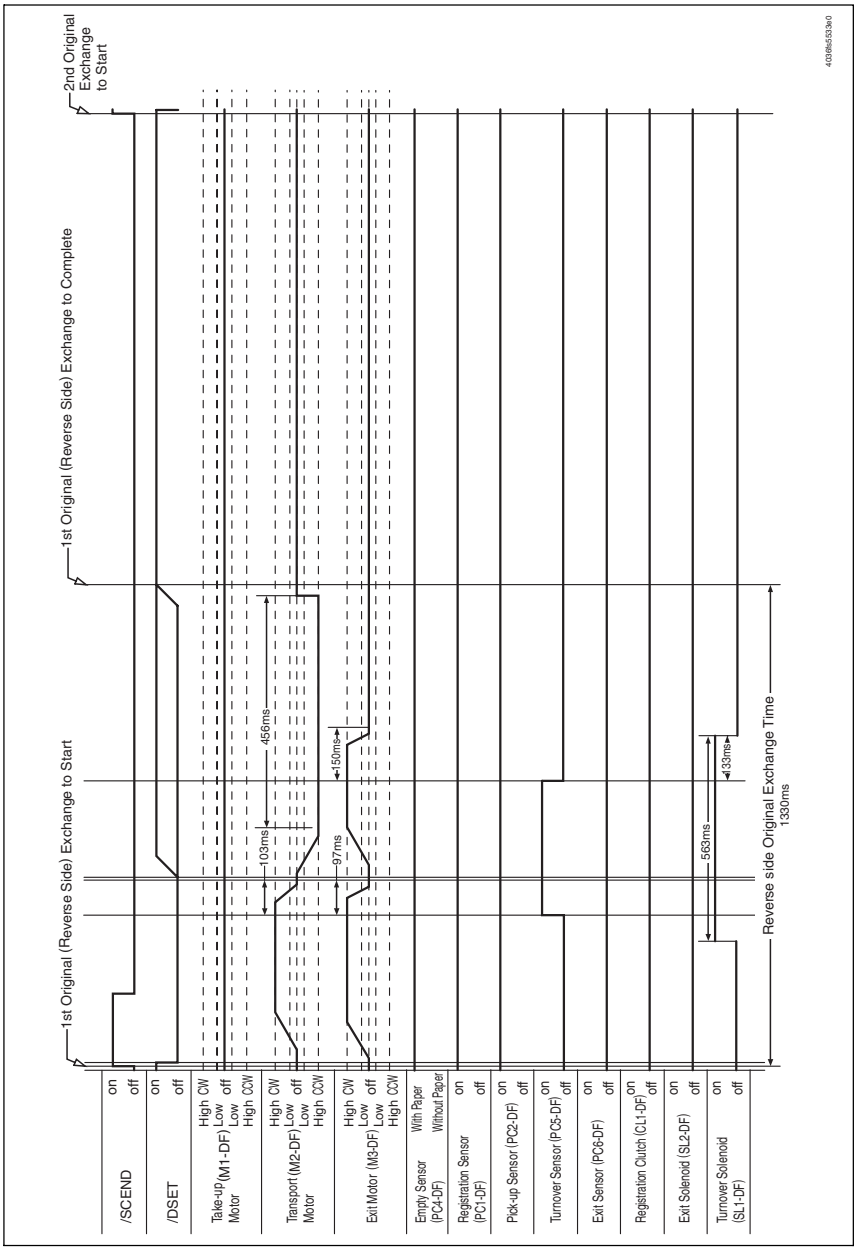

3rd Original Preliminary Take-up Complete
1st Original Exchange to Complete
3rd Original Preliminary Take-up Start
2nd Original Exchange to Start
3rd Original Exchange to Start
DSET Signal Transmission
104ms
61ms
On Registration
Amount of Registration Loop 6(mm)
86ms
705ms
Original Exchange Time 384ms
Preliminary Take-up Time 952ms
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
40381653ea0

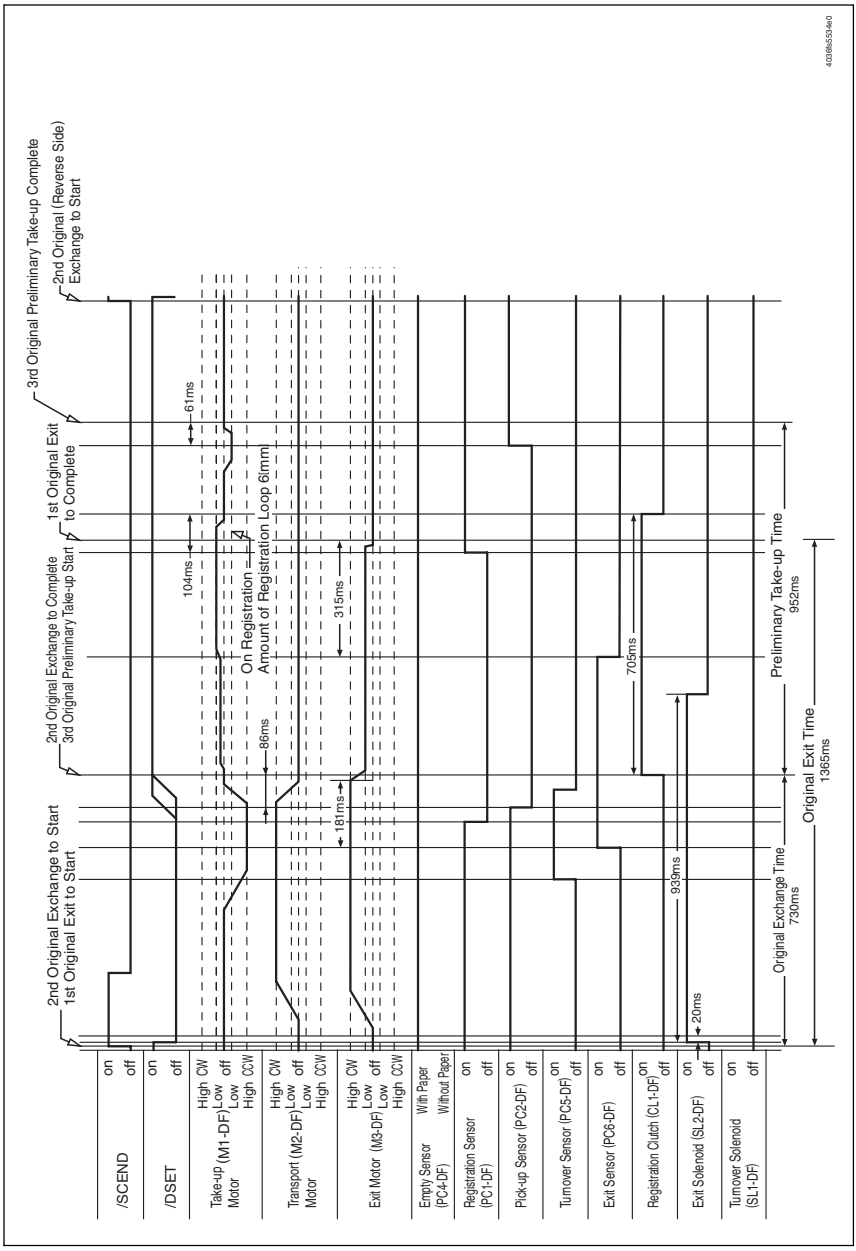

3rd Original Exchange to Start
1st Original Exit to Start
3rd Original Exchange to Complete
4th Original Preliminary Take-up Start
4th Original Exchange to Start
2nd Original Exit to Start
1st Original Exit to Complete
4th Original Exchange to Complete
2nd Original Exit to Complete
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
DSET Signal Transmission
104ms
61ms
On Registration
Amount of Registration Loop 6mm
86ms
88ms
82ms
181ms
315ms
705ms
Original Exchange Time
384ms
Original Exit Time
1397ms
Preliminary Take-up Time
952ms
4036bs530x0

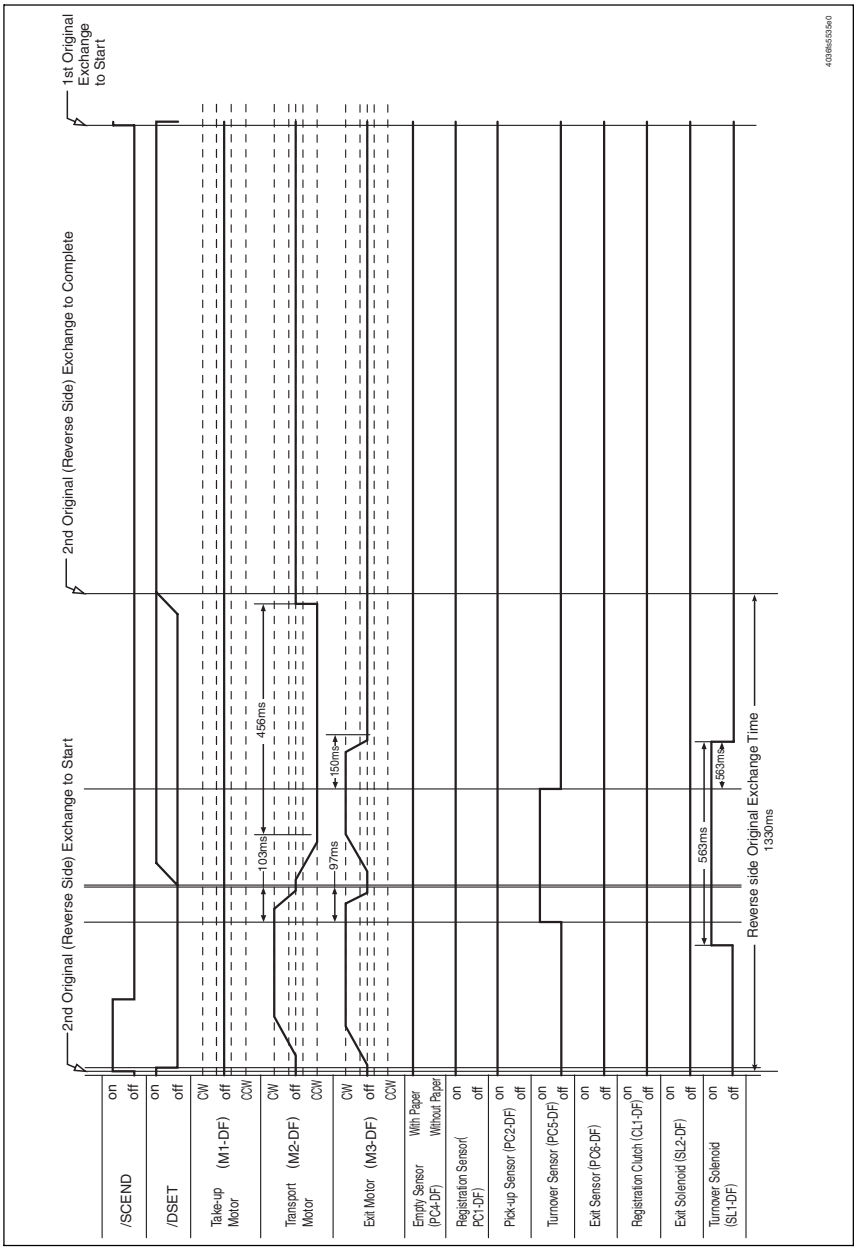

3rd Original Exit to Start
3rd Original Exit to Complete
4th Original Exit to Start
4th Original Exit to Complete
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
82ms
181ms
315ms
Original Exit Time
1397ms
4039b533ia0

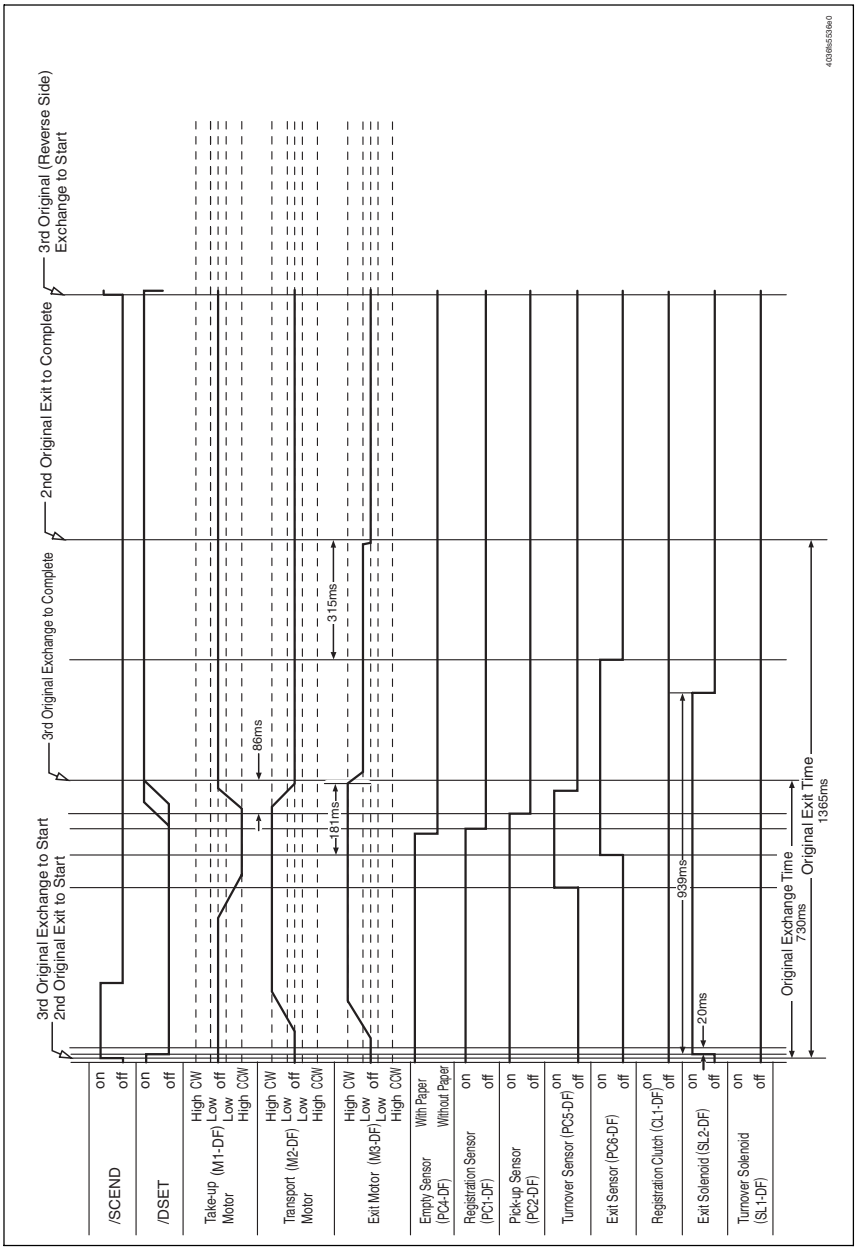
3.2.2 Mixed original detection mode

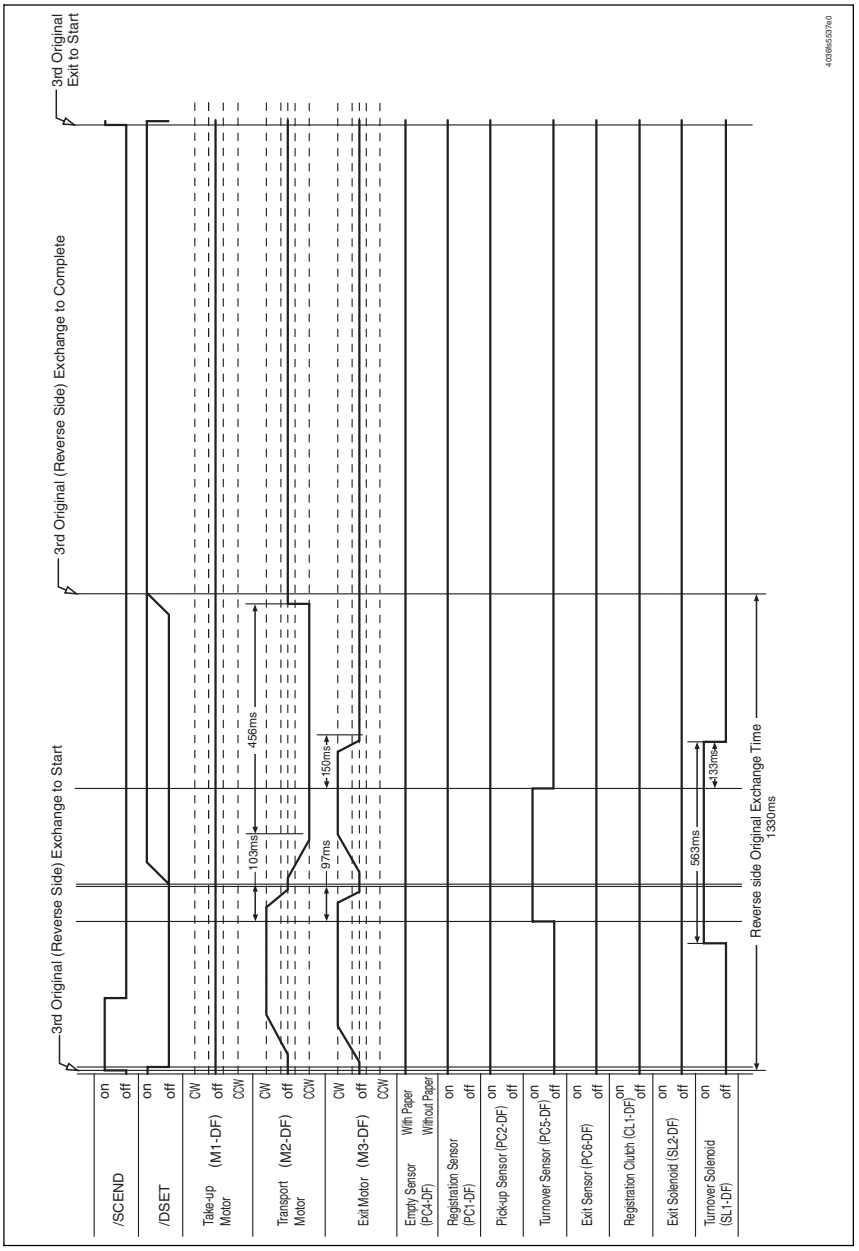


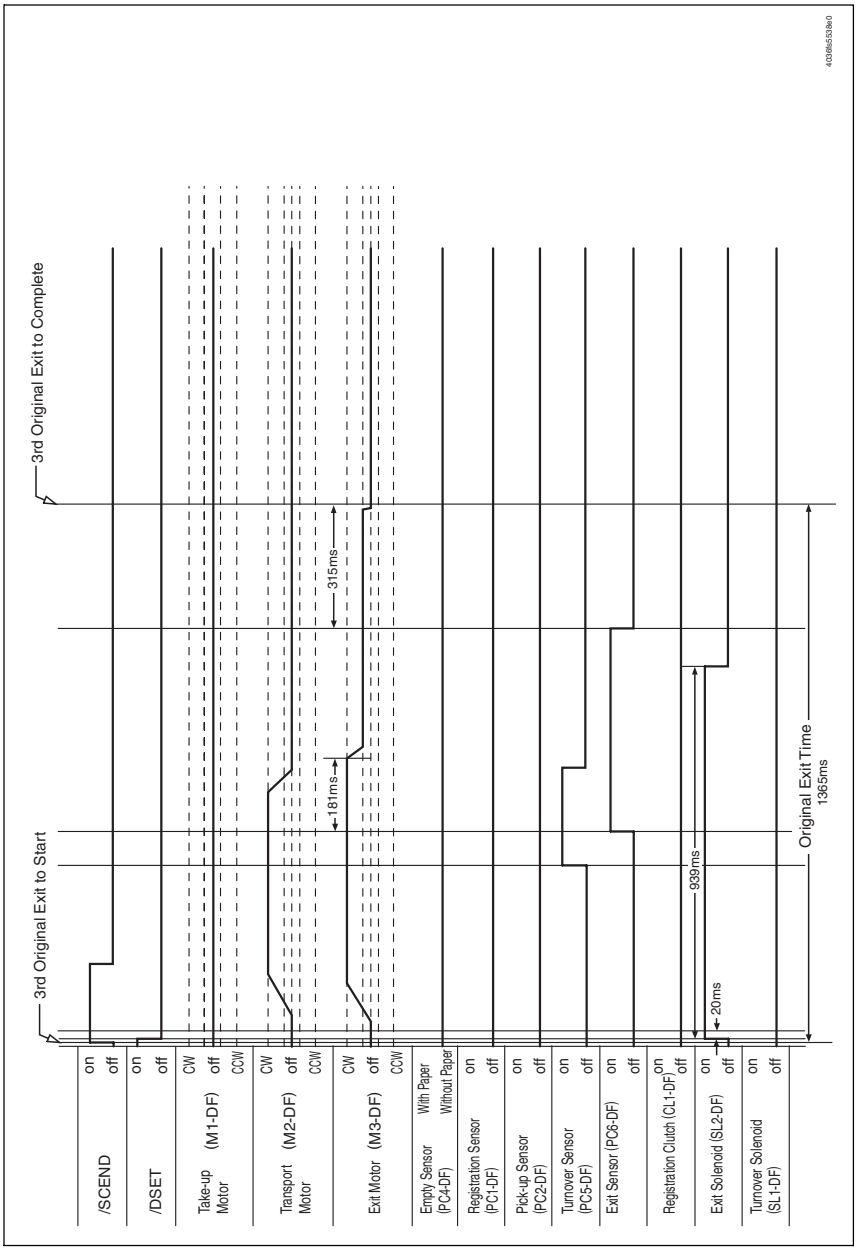

1st Original (Reverse Side) Exchange to Start
1st Original (Reverse Side) Exchange to Complete
2nd Original Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport (M2-DF) Motor
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High CW
Low
High CCW
With Paper
Without Paper
103ms
456ms
97ms
150ms
563ms
33ms
Reverse side Original Exchange Time
1330ms
4098s533k0


2nd Original Exchange to Start
1st Original Exit to Start
2nd Original Exchange to Complete
3rd Original Preliminary Take-up Start
1st Original Exit to Complete
3rd Original Preliminary Take-up Complete
2nd Original (Reverse Side) Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport (M2-DF) Motor
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High
Low
CW
CCW
With Paper
Without Paper
61ms
104ms
On Registration
Amount of Registration Loop 6mm
86ms
315ms
181ms
705ms
938ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
Preliminary Take-up Time
952ms
4038b533ea0


2nd Original (Reverse Side) Exchange to Start
2nd Original (Reverse Side) Exchange to Complete
1st Original Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor(PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
103ms
456ms
150ms
97ms
563ms
563ms
Reverse side Original Exchange Time
1330ms
4098s533e0


3rd Original Exchange to Start
2nd Original Exit to Start
3rd Original Exchange to Complete
2nd Original Exit to Complete
3rd Original (Reverse Side) Exchange to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport (M2-DF) Motor
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
High CW
Low off
Low
High CCW
With Paper
Without Paper
86ms
181ms
315ms
939ms
20ms
Original Exchange Time
730ms
Original Exit Time
1365ms
4088s533ke0


3rd Original (Reverse Side) Exchange to Start
3rd Original (Reverse Side) Exchange to Complete
3rd Original Exit to Start
/SCEND
/DSET
Take-up Motor (M1-DF)
Transport Motor (M2-DF)
Exit Motor (M3-DF)
Empty Sensor (PC4-DF)
Registration Sensor (PC1-DF)
Pick-up Sensor (PC2-DF)
Turnover Sensor (PC5-DF)
Exit Sensor (PC6-DF)
Registration Clutch (CL1-DF)
Exit Solenoid (SL2-DF)
Turnover Solenoid (SL1-DF)
on
off
CW
CCW
With Paper
Without Paper
103ms
456ms
97ms
150ms
563ms
133ms
Reverse side Original Exchange Time
1330ms
4098s537k0


3rd Original Exit to Start
3rd Original Exit to Complete
/SCEND
on
off
/DSET
on
off
Take-up Motor (M1-DF)
CW
off
CCW
Transport Motor (M2-DF)
CW
off
CCW
Exit Motor (M3-DF)
CW
off
CCW
181ms
315ms
Empty Sensor (PC4-DF)
With Paper
Without Paper
Registration Sensor (PC1-DF)
on
off
Pick-up Sensor (PC2-DF)
on
off
Turnover Sensor (PC5-DF)
on
off
Exit Sensor (PC6-DF)
on
off
Registration Clutch (CL1-DF)
on
off
939ms
Exit Solenoid (SL2-DF)
on
off
20ms
Turnover Solenoid (SL1-DF)
on
off
Original Exit Time
1365ms
4d086d533dx0

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

Standard Controller

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

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2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
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Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Controller specifications

Type	Built-in type controller
Print Speed *	B&W :35 ppm Color :22 ppm
Printer Language	PCL5c
CPU	MPC8245-350MHz (using the main unit's CPU)
Program ROM	16 MB (8 MB × 2); *Including 46 internal fonts.
RAM	256 MB
Host Interface	Ethernet (10/100BASE-TX, RJ-45) IEEE1284 (Compatible/Nibble/ECP)*2
Network Protocol	IPX/SPX (Auto, Ethernet II, 802.2, 802.3, 802.3 SNAP) NetBEUI TCP/IP SMTP. POP3, FTP, SNMP, HTTP 1.1 DHCP, ARP/ICMP, BOOTP SLP
Network Print Service	Pserver (NDS) ... NetWare 4.x, 5.x, 6.x Pserver (Bindery) ... NetWare 4.x NDPS ... NetWare 5.x, 6.x SMB RAW Port Printing (Port 9100: To be changed from Page Scope Light) IPP 1.1 LPD IFAX to print Data that can be received Resolution: 200 × 100, 204 × 98, 200 × 200, 204 × 196, 204 × 391, 300 × 300, 400 × 400, 408 × 391 Size: Letter, Legal, Ledger, A4, B4, A3 Color Mode: Monochrome Compression method: MH, MR, MMR
Network Scan Functions	Scan to FTP with URL Notification Scan to PC with URL Notification Scan to E-Mail Scan to HDD with URL Notification TWAIN Scan to IFAX Data to be transmitted Resolution: 200 × 200 Size: A4/Letter/Legal Color Mode: Monochrome Compression method: MH
Software Accessories (1) Drive CD	PCL5c Printer Driver, TWAIN Driver, Front Manager, BOX Utility OS: Windows98/98SE/Me, NT4.0, 2000, XP, Server2003
Software Accessories (2)	Page Scope Web Connection has been built into the controller firmware.
Compatible Paper Size	Max. standard paper size A3 Wide
Resolution	600 × 600 dpi
Power Requirements	Shared with main unit

Operating Environmental Requirements	10 - 30 °C 15 - 85 %
Fonts	Internal fonts: Outline font: 45Agfa Intellifont: 35 TrueType font: 10 Bitmapped font: 1 Screen Font: 110 TrueType (Font Manager)
Options	Not available *3

*1:When printing one side of the same A4 original
*2:The optional Local Interface Kit (EK-501) is required.
*3:If the controller option is not specified, the optional Hard Disk (HD-501) must be installed on the main unit in order for the “Store to HDD” settings (printer driver settings), “Set Numbering” function (printing with distribution numbers), the Scan to HDD operation, and the box function to be used. (In order to use the “Set Numbering” function, the 256 MB Expanded Memory Unit (EM-301) must also be installed.)

1.1 Supporting client specifications

PC	IBM PC and its compatible		
RAM	64 MB or more (128MB or more for XP)		
OS	Windows 98/98SE, Windows Me, Windows 2000, Windows XP, Windows NT 4.0, Windows Server 2003		
Interface	With a network connection	Connection method	Ethernet 10Base-T/100Base-TX
		Protocols	TCP/IP, NetBEUI, IPX/SPX (NetWare 4.x, 5.x, 6.x)
	With a parallel connection	IEEE1284 (Compatible/Nibble/ECP)*1	
Browser	The following browser is required to use Page Scope Web Connection: Netscape Communicator version 4.5 or later (Java-compliant) Internet Explorer version 5.5 or later (Java-compliant)		

*1:The optional Local Interface Kit (EK-501) is required.

II Maintenance

1. Checking the controller firmware version

- The version of the controller firmware can be checked on the control panel of the machine.

1. Call the Tech. Rep. Mode to the screen.
2. Touch [ROM Version].
3. Touch [2].
4. Check the versions of the following.

Controller	NM
DSS	MIO
DPS	MIOM
Demo Page	Font

2. Firmware rewriting

2.1 Preparations for updating the firmware

2.1.1 Service environment

- OS: Windows2000
- Drive which enables writing/reading of Compact flash
- Compact flash (with 64MB or more)

2.1.2 Application to be used

- Cygwin (Free software)

2.1.3 Installing the Cygwin

- The software for writing the Firmware into Compact flash is installed into the PC.

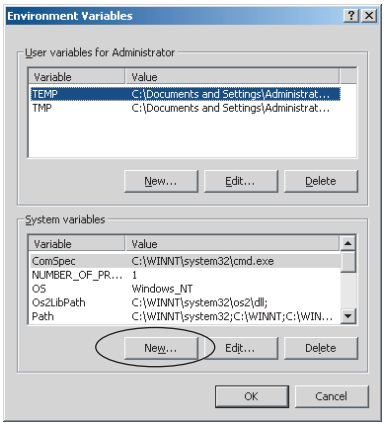
⚠1 1. Execute the “setup.exe” of the CD-ROM in which Cygwin has been stored to start the installation sequence.

NOTES

- **Except for the selection of “Install from Local Directory”, carry out installing according to the instruction from Installer during installing.**
- ⚠1 **Check that the destination for Cygwin installation is “c:\cygwin.”**
- **Check that the source data for installation is the “cygwin” folder in CD drive.**

2. After installing, open the Property of “My Computer”, and click the “Environment Variables” of “Advanced” tab.

3. Click the “New” in System Variable Setting.



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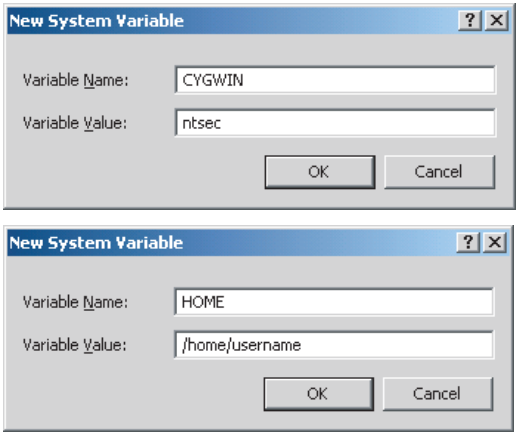
4. Set the following two values as the Windows Environmental Variable.

Variable Name	Variable Value
CYGWIN	ntsec
HOME	/home/username



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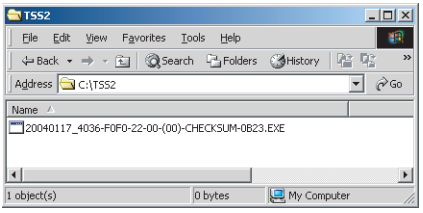
2.1.4 Writing into the Compact flash

1. Put the data of Firmware in the optional directory.
   (C:\TSS2 in the below figure)



NOTE

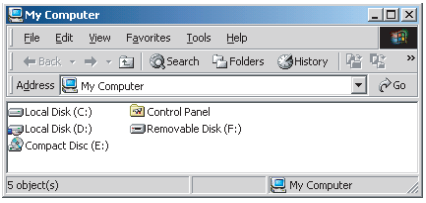
- **The file name of Firmware data consists of the "Release Date_Version_CHECKSUM-****.exe".**

2. Double-click the Firmware data, and specify the directory to be uncompressed, and then uncompress it.

NOTE

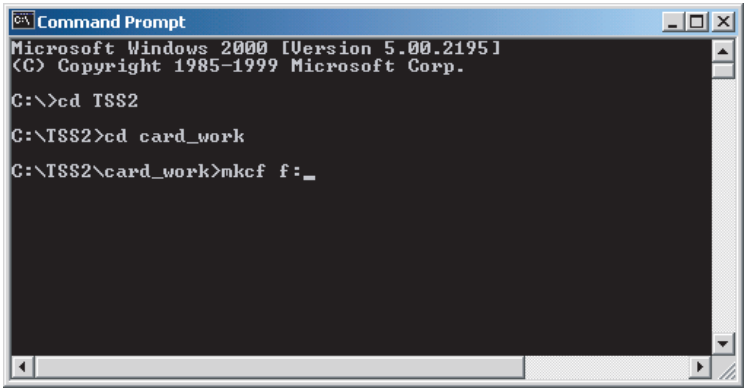
- **When old Firmware is still left in the specified directory to be uncompressed, delete it before uncompressing.**

3. Mount the Compact flash on the PC, and check the Drive name, which was recognized in the Windows.
   (F-Drive in the following figure)



4. Click "Start"→"Program"→"Accessories"→"Command prompt" to open the Command prompt.
5. Use the Command prompt to move into the uncompressed directory.

6. Specify the Drive of Compact flash, which was recognized through the procedure 3, and execute the “mkcf.bat”.
(Input the C:\TSS2\card_work>mkfc f (Drive number) in the below figure, and push the “Enter”.)



7. Once the “mkcf.bat” is executed, data writing into the Compact flash is started.
8. Upon completion of writing, CHECKSUM is executed. If CHECKSUM value is precisely matched, “VERYFY OK” appears.

9. Remove the Compact flash from PC.

NOTE

- **When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.**

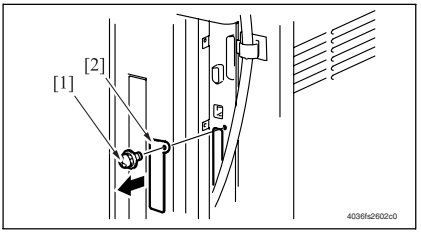
2.2 Updating procedures of firmware

- When removing the Compact flash, be sure to check if data is written as normal and then remove it according to the precise removing method.

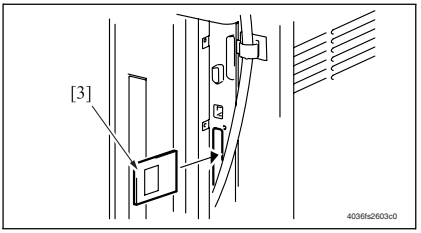
2.2.1 Updating method

NOTE

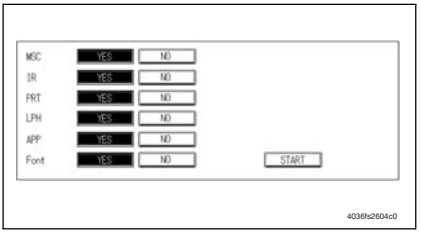
- **NEVER remove or insert the Compact Flash card with the machine power turned ON.**



1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.
2. Remove the screw[1] and the metal Blanking Plate[2].



3. Insert the Compact Flash card [3] into the slot.



4. Plug the power cord into the power outlet and turn ON the Power Switch.
5. Six different types of F/W appear on the Touch Panel.
6. Select the particular type of F/W (APP/Font) to be updated.

7. Press the Start key. (At this time, the Start key starts blinking red.)
8. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly (“Downloading Completed”). Check also the Check Sum value (“Check Sum XXXX”) shown on the Touch Panel. (The Start key blinks green.)
9. Unplug the power cord from the power outlet.

NOTE

- **Do not turn OFF the Power Switch.**

10. Remove the Compact Flash card from the slot.
11. Turn OFF the Power Switch.
12. Plug the power cord and turn ON the Power Switch.
13. Call the Tech. Rep. mode to the screen.
14. Select ROM Version.
15. Make sure that the Firmware is updated.

2.2.2 Action When Data Transfer Fails

- If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the memory card for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

APP	MFP Control Board (PWB-MFP)
Font	MFP Control Board (PWB-MFP)

III Adjustment/Setting

1. Checking the external interface operation mode setting

- Whenever the controller is mounted, it is necessary to select “Controller 3” in “Peripheral Setting.”

1. Call the Tech. Rep. Mode to the screen.
2. Touch “System Input”.
3. Check that “Controller 3” is selected in “Peripheral Setting.”

NOTE

- **If the mode is changed, be sure to turn OFF and ON the Power Switch. The change of the setting becomes valid when the Power Switch is turned OFF and ON after the appropriate change has been made on the panel.**

2. Setting for PageScope Remote Care

- Be sure to make the following settings to use PageScope Remote Care. After the settings have been made, establish a connection with the PageScope Remote Care Device Management Server.

2.1 Setting procedures

Follow these procedures to make the settings.

1. In the Tech. Rep. mode accessed from the machine control panel, check that “e-mail” is selected in “RD Mode”.
2. Select “System Input” - “Peripheral Setting” - “Server Set (RD)” from the Tech. Rep. mode and make the e-mail transmission/reception settings.
   “Server Set (RD)” will not be displayed unless “Controller 3” has been selected in “Peripheral Setting”.
3. In “TX/RX Test”, check the e-mail transmission/reception settings.

Obtain the following information from the network administrator in advance.

- **IP addresses of mail servers (POP3 and SMTP)**
- **Logon user name and password set for the controller**
- **Mail domain name**
- **POP3 port number of the mail server (ordinarily, 110)**
- **SMTP port number of the mail server (ordinarily, 25)**

2.2 “Server Set (RD)” settings

- To use PageScope Remote Care, it is necessary to make the e-mail reception settings and e-mail transmission settings.

2.2.1 E-mail reception settings

- These settings may be the same as, or different from, the mail reception settings for Internet Fax.

1. Touch “Server for RX”.
2. Touch “POP3 Server” and type the IP address of the reception mail server.
3. Touch “POP3 login Name” and type the logon user name.
4. Touch “POP3 password” and type the logon password.
5. Touch “POP3 port number” and type the port number to be specified when connecting with the POP3 server. Ordinarily, type 110.

6. Touch “Receive”.
7. Touch “E-Mail Address” and type the reception mail address.
   The reception mail address is [POP3 Login Name]@mail domain name.
   E.g.: controller@xxx.xxx.com
8. Touch “Mail check” and type the time interval (min.) for mail check. No mails can be received if “No” is selected.

NOTE

- **Since load placed by Mail Check on the network can be minimal, set the minimum time interval permitted by the network administrator.**

9. Touch “Connection timeout” and check the set time (sec.). The default setting does not basically cause any problem.

2.2.2 E-mail transmission settings

- These settings may be the same as, or different from, the mail transmission settings for Scan to E-mail and Internet Fax.

1. Touch “Send”.
2. Touch “SMTP server” and type the IP address of the transmission mail server.
3. Touch “SMTP port number” and type the port number to be specified when connecting with the SMTP server. Ordinarily, type 25.
4. Touch “Timeout of SMTP Server” and check the set time (sec.). The default setting does not basically cause any problem.

2.2.3 Checking the E-mail Transmission/Reception Settings

- When the e-mail transmission/reception settings have been made, check the settings by following the procedure given below.

1. Touch “Receive” - “Mail check” and set the mail check time interval to the minimum 1 min.
2. Touch “TX/RX Test” and press the Start key.

NOTE

- **Before starting the test, it is necessary that the first drawer of the machine must be loaded with A4R paper. If the drawer is loaded with paper of any other size, the Start key LED will remain lit red and it is not possible to carry out the test.**
  The test cannot be started, either, immediately after the Power Switch has been turned ON, during which period the controller is in the process of starting. Start the test after booting of the controller is completed (which takes about 1 min. or more after the Power Switch has been turned ON).

3. Wait for 1 min. or more after the Start key has been pressed. Then, touch “Communication Log Print” and press the Start key. Then transmission/reception log will then be printed.
4. Check the printed log.
5. Touch “Receive” - “Mail check” and set the mail check time interval back to the original value.

2.3 Supplementary information: Log check

- "TX/RX Test" is the function that sends an e-mail to the mail address of the controller ("Email Address" set in "Receive"). The e-mail sent to the controller is received by the controller during mail check. The log shows the record of transmission and reception of this e-mail and, if the transmission/reception is normally terminated, the test can be regarded as being okay.
- The log is a record of ten different transmissions and/or receptions, no. 1 being the latest.

2.3.1 Example of successful test transmission/reception:

7	Status	Rx Succeede
	From	Controller@test.com
	To	Controller@test.com
	Data	23 Apr 02 15:06:55 +0900
	Subject	TestMail
	Received	Received: THU, 23, Apr 2002 15:06:58 +0900
8	Status	Tx Succeede
	From	Controller@test.com
	To	Controller@test.com
	Data	23 Apr 02 15:06:55 +0900
	Subject	TestMail
	Received	

Log showing successful reception

Same time and date

Log showing successful test transmission

2.4 Connection with PageScope Remote Care Device Management Server

- When the above settings have been made, call the Center software administrator and ask him or her to make the initial connection to the set mail address.

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IV Troubleshooting

1. Checking the system configuration

- When a malfunction occurs, let the printer print a Configuration Page to check for system configuration.

1. Press the Utility key.
2. Touch “Print Set”.
3. Touch the “Report Types” key.
4. Touch “Configuration” and press the Start button.

2. Status codes

Code	Description	Action
C-12DO	Faulty controller hardware	Change the controller board (MFP Control Board).
C-1800	Controller start failure	Change the controller board (MFP Control Board) if the problem occurs again when the Power Switch of the machine is turned OFF and ON.

3. Troubleshooting procedures

3.1 Unable to print over the network.

	Check		Possible Cause	Action	Remark
1	Is the print job displayed on the machine control panel?	Yes	An error on machine side (paper running out, toner running out, etc.)	Correct the error.	See “Operator’s Manual, Administrators” of the machine.
			Waiting its turn	Check the machine control panel for jobs in print queue. Priority may be changed as necessary.	See “Operator’s Manual, Basic” of the machine.
			The job is locked.	Enter the password to unlock the job.	See “Job Management” in Operator’s Manual.
			The correct division ID has not been entered.	Enter the correct division ID in the printer driver and try re-transmitting the job again. (access code)	
		No	Data is yet to be received.	Go to item 2.	

	Check		Possible Cause	Action	Remark
2	Is the response of Ping sent from the PC to the machine?	Yes	The print destination port setting is wrong.	Set the correct port.	See “For Network Connection” in Installation Guide.
			PC operates erratically temporarily.	Restart the PC.	
			Printer driver incorrectly installed	Uninstall the printer driver through the proper steps and then reinstall it properly.	See “Uninstalling the Driver” in Operator’s Manual.
		No	Controller board (MFP Control Board) operates erratically temporarily.	Restart the controller board.	Turn OFF and ON the machine main switch.
			Network cable is disconnected or a relay device is faulty.	Reconnect the cable and restart or change the faulty relay device.	Check with the controller network LED.
			IP address and/or subnet mask incorrectly set.	Set the correct IP address and subnet mask.	See “TCP/IP Setting” in Installation Guide.

3.2 Unable to transmit data through Scan to FTP.

	Check	Possible Cause	Action	Remark
1	The message “Failed to connect to the destination” appears.	The FTP server is not in service.	Check with the network administrator.	
		IP address of the FTP server is wrong.	Check with the network administrator and enter the correct IP address.	See “Settings and Operations for Scan Functions” in Operator’s Manual.
		Proxy setting is wrong.	Check with the network administrator and make the correct proxy setting.	
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A directory not existing in the FTP server is specified.	Check with the network administrator and enter the correct directory.	
		Failed to log on to the FTP server because of the wrong user account.	Check with the network administrator and enter the correct user name and password.	
		A timeout condition occurs.	Set a longer value for “FTP Connection Timeout.” The timeout value depends on the network’s traffic conditions and load on the FTP server.	
2	The message “Server Connect error” appears.	The network is disconnected during file transfer.	Send Ping from PC to the controller and FTP server to check to see if both parties are connected to the network or not.	
		The FTP server hard disk becomes full during file transfer.	Check with the network administrator.	
		The FTP server stops during file transfer.	Check with the network administrator.*	

3.3 Unable to transmit data through Scan to E-Mail/Internet FAX.

	Check	Possible Cause	Action	Remark
1	The message "Server Connect error" appears.	The SMTP server is not in service.	Check with the network administrator.	
		IP address of the SMTP server is wrong.	Check with the network administrator and enter the correct IP address.	See "Settings and Operations for Scan Functions" in Operator's Manual.
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		A timeout condition occurs.	Set a longer value for "SMTP Connection Timeout." The timeout value depends on the network's traffic conditions and load on the FTP server.	
		The network is disconnected during file transfer.	Send Ping from PC to the controller and SMTP server to check to see if both parties are connected to the network or not.	
2	The message "E-mail Size Over" appears.	The size of the scan data exceeds the upper limit value set for Maximum E-Mail Size.	Decrease resolution to make small the data size or change the setting for Scanned File Separation and Binary Division as necessary so that the scan data does not exceed the Maximum E-Mail Size. ✻	See "Settings and Operations for Scan Functions Scan to E-mail" in Operator's Manual.

✻Depending on the model of the Internet Fax machine on the receiving end, a file transmitted through binary division may not be properly received by the receiving machine. Check with the receiving end before actually sending the Internet Fax.

3.4 E-mail does not reach the destination when transmission through Scan to E-Mail/Scan to Internet FAX is completed.

	Check		Possible Cause	Action	Remark
1	An error message is returned from the mail server.	Yes	The destination mail address is wrong.	Enter the correct mail address.	See “Settings and Operations for Scan Functions Scan to E-mail Error Message and Internet Fax Error Message”
		No	The Internet FAX machine on the receiving end is being unable to receive, or is not receiving, mail stored in the POP3 server.		

3.5 Data cannot be received in Internet FAX.

	Check	Possible Cause	Action	Remark
1	The error report <Out of Support File> is printed.	The mail portion is in a format not good for reception.		Support format MIME
		The format of the file attached to the mail is not supported for reception.	The reason why the sender attaches a file of a format not supported is probably because the sender uses PC mail software to send the mail and does not pay attention to the format of the file when attaching it. → Ask the sender to attach the file of the correct format.	
2	is displayed on the control panel of the machine.	IP address of the POP3 server is wrong.	Check with the network administrator and enter the correct IP address.	
		Port number is wrong.	Check with the network administrator and enter the correct port number.	
		Failed to log on to the POP3 server due to a wrong user account.	Check with the network administrator and enter the correct user name and password.	

	Check	Possible Cause	Action	Remark
3	The error report <Not Attached File> is printed.	No files are attached.	The reason why the file is not attached to the mail sent by the sender is probably because the sender uses PC mail software to send the mail and fails to attached the file to the mail. → Ask the sender to attach the file.	
4	The error report <Out of Support Character Code> is printed.	A character code not supported is specified in the mail portion.		Supported character codes US ASCII, ISO 8859 Latin 1, ISO 8859 Latin 2, ISO 2022 JP

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

DF-601

2004.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

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II Maintenance

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I General

1. Product specifications

1.1 Type

Name	Duplexing Document Feeder	
Type	Paper Take-Up	Paper Take-Up from top of stack
	Transport	Endless Belt Transport Mode
	Turnover	Loop Turnover Mode
	Paper Exit	U-turn Turnover + Switchback U-Turn Turnover Mode (only in 1-Sided Mode)
Installation	Screw cramp to the main unit	
Document Alignment	Center	
Document Loading	Face up	

1.2 Functions

Modes	Standard Mode	1-Sided Mode / 2-Sided Mode
	Thick Paper Mode	1-Sided Mode
	Mixed Original Detection Mode	1-Sided Mode / 2-Sided Mode

1.3 Paper type

Type of Document	Standard Mode Plain Paper	1-Sided Mode 35 to 128 g/m^2 (9-1/4 to 34 lb)
		2-Sided Mode 50 to 110 g/m^2 (13-1/4 to 29-1/4 lb)
	Thick Paper Mode Plain Paper	1-Sided Mode 129 to 210 g/m^2 (34-1/4 to 55-3/4 lb)
	Mixed Original Detection Mode Plain Paper	1-Sided / 2-Sided Mode 50 to 110 g/m^2 (13-1/4 to 29-1/4 lb)
Detectable Document Size*1	Metric area B6R to A3 Inch area 5-1/2 × 8-1/2R / 5-1/2 × 8-1/2 to 11 × 17	
Capacity	Standard Mode / Mixed Original Detection Mode	Document Feed Table: 100 sheets (80 g/m^2, 21-1/4 lb)
		Original Exit Tray: 100 sheets (80 g/m^2, 21-1/4 lb)
	Thick Paper Mode	Document Feed Table: 38 sheets (210 g/m^2, 55-3/4 lb)
		Original Exit Tray: 38 sheets (210 g/m^2, 55-3/4 lb)

*1 For the Combined Original Detection Mode, Refer to the Mixed Original Detection Enabled Size Combination Table.

1.4 Machine specifications

Power Requirements	DC24V (supplied from the main unit)
	DC5V (generated within the DF-601)
Max. Power Consumption	60 W or less
Dimensions	586 mm (W) × 519 mm (D) × 135 mm (H) 23 inch (W) × 20-1/2 inch (D) × 5-1/4 inch (H)
Weight	14.2 kg (31-1/4 lb)

1.5 Operating environment

Conforms to the operating environment of the main unit.

2. Mixed original feed

2.1 Mixed original feed chart

For Metric

	Max. Original Size	297 mm		257 mm		210 mm		182 mm	148 mm
Mixed Original Size		A3	A4	B4	B5	A4R	A5	B5R	A5R
297 mm	A3	OK	OK	-	-	-	-	-	-
	A4	OK	OK	-	-	-	-	-	-
257 mm	B4	OK	OK	OK	OK	-	-	-	-
	B5	OK	OK	OK	OK	-	-	-	-
210 mm	A4R	OK	OK	OK	OK	OK	OK	-	-
	A5	NG	NG	OK	OK	OK	OK	-	-
182 mm	B5R	NG	NG	OK	OK	OK	OK	OK	-
148 mm	A5R	NG	NG	NG	NG	NG	NG	OK	OK

For Inch

	Max. Original Size	11		8-1/2			5-1/2
Mixed Original Size		11 × 17	8-1/2 × 11	8-1/2 × 14	8-1/2 × 11R	5-1/2 × 8-1/2	5-1/2 × 8-1/2R
11	11 × 17	OK	OK	-	-	-	-
	8-1/2 × 11	OK	OK	-	-	-	-
8-1/2	8-1/2 × 14	OK	OK	OK	OK	OK	-
	8-1/2 × 11R	OK	OK	OK	OK	OK	-
	5-1/2 × 8-1/2	NG	NG	OK	OK	OK	-
5-1/2	5-1/2 × 8-1/2R	NG	NG	NG	NG	NG	OK

OK	Mixed Original Feed available (Tilted with in 1.5% or less)
NG	NO. Mixed Original Feed
-	Can not Set Original

2.2 Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of Original	Possible Trouble
Sheets stapled or clipped together	Take-up failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Take-up failure, damaged sheet
Sheets of 211g/m^2 (56-1/4 lb) or more	Take-up failure
Sheets of 110g/m^2 (29-1/4 lb) or more in 2-Sided Mode	Take-up failure
Sheets folded, torn or wrinkled	Take-up failure, damaged sheet
Sheets severely curled	Sheets misfed due to being dog-eared or fed in askew
OHP Film (Transparency Film)	Take-up failure
Label Paper	Take-up failure
Offset Master Paper	Take-up failure
Sheets clipped or notched	Damaged sheet
Sheets patched	Patched part folded or torn sheet

2.3 Paper feed not guaranteed originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 - 15 mm)	Dog-eared, exit failure
Heat Sensitive Paper	Edge folded, exit failure, transport failure
Ink Jet Paper	Take-up failure, transport failure
Sheets with smooth surface (Coated Paper)	Take-up failure, transport failure
Intermediate paper	Take-up failure, transport failure
Paper immediately after paper exit from the main unit	Take-up failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets with 2 to 4 holes	Transport failure
Sheets two-folded or Z-folded (A3 or 11 × 17)	Transport failure, image deformation
Sheets with rough surface (e.g., letterhead)	Take-up failure
Sheets penciled	Contamination
Sheets folded	Image deformation, multi-page feed, take-up failure
Sheets other than detectable-size sheets	Image deficit

Blank page

II Maintenance

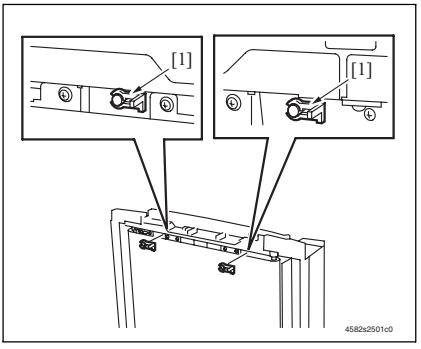
1. Periodical check

1.1 Maintenance procedure (Periodical check parts)

NOTE

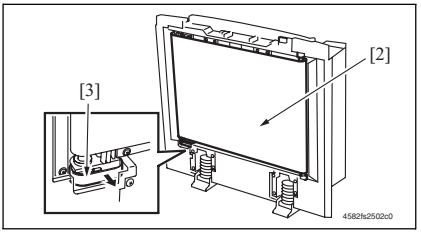
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

1.1.1 Transport Belt

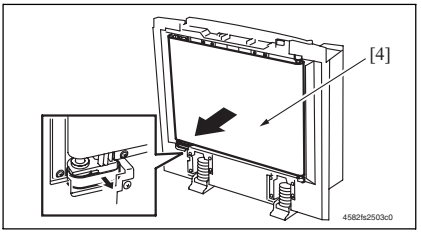


A. Replacing procedure

1. Remove two C-clips [1].



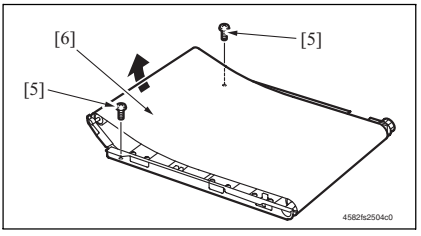
2. Remove the Transport Belt Roller Assy [2] from the belt [3] connected.



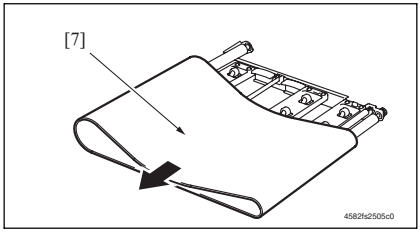
3. Pull out and remove the Transport Belt Roller Assy [4].

NOTE

- **In reassembling, ensure that the Transport Belt Roller Assy is set exactly to the connection belt.**

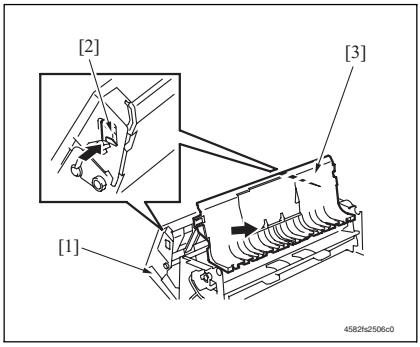


4. Remove two screws [5], and pull up the Roller Section [6].



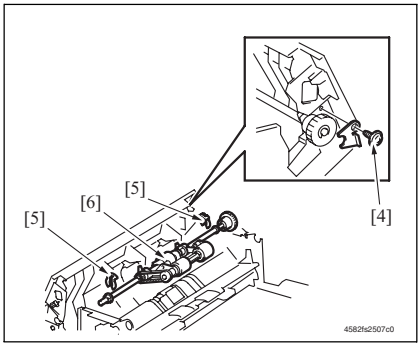
5. Remove the Transport Belt [7].

1.1.2 Pick-up Roller / Paper Take-up Roller

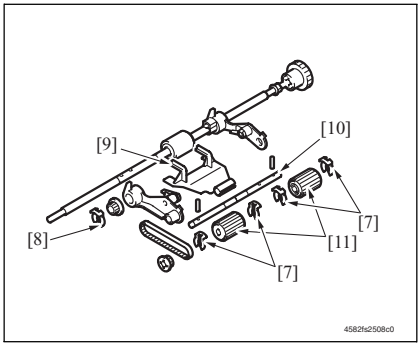


A. Replacing procedure

1. Open the Paper Take-up Section Cover [1], press inward and unlock the locking claws [2] at both ends of the Paper Take-up Section Guide (the Inner Cover), and remove the Paper Take-up Section Guide [3].

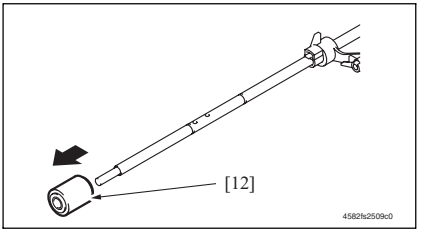


2. Remove the screw [4] (on the rear side) of the Pick-up/Paper Take-up Roller Assy shaft positioning plate and two C-clips [5] (at both ends) of the Pick-up/Paper Take-up Roller Assy shaft, and remove the Pick-up/ Paper Take-up Roller Assy [6].



3. Remove four C-clips [7] of the Pick-up Roller and the gear-fixing C-clip [8] (black) of the Pick-up/Paper Take-up Roller connected Timing Belt, and remove the Pick-up/Paper Take-up Roller connecting section [9] from the shaft [10].

4. Remove the Pick-up Roller [11].

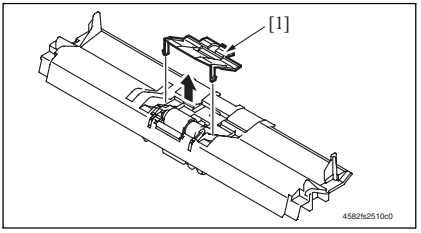


5. Remove C-clip (black) of the Paper Take-up Roller, and remove the Paper Take-up Roller [12].

NOTE

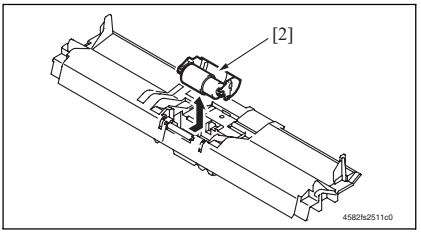
- **Be careful not to lose the Pick-Up/ Take-Up Roller fixing pin.**

1.1.3 Separation Roller



A. Replacing procedure

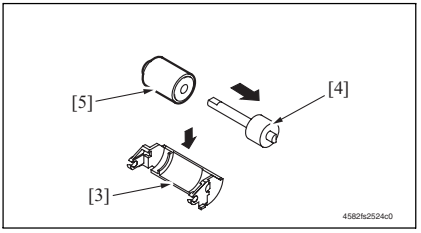
1. Unlock the Separation Roller Cover locking claws, and remove the Separation Roller Cover [1].



2. Remove the Separation Roller Assy [2].

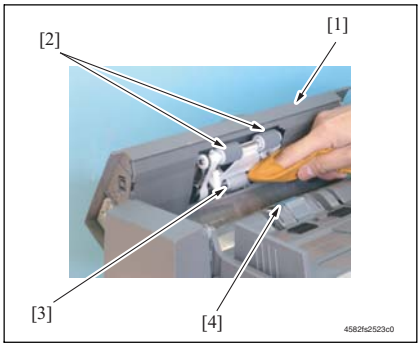
NOTE

- **The Separation Roller Assy is of a set-in type. Pinch the roller shaft at both ends and pull out the Separation Roller Assy upward.**



3. Remove the Holder [3] and the shaft [4], and remove the Separation Roller [5].

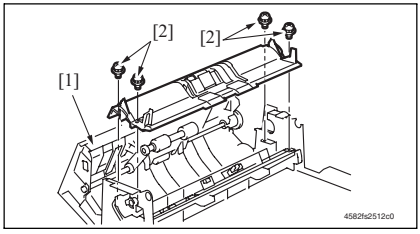
1.1.4 Pick-up Roller / Paper Take-up Roller / Separation Roller



A. Cleaning procedure

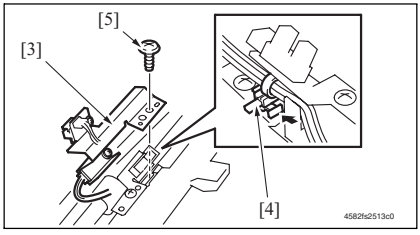
1. Open the Paper Take-up Section Cover [1].
2. Wet a cloth with alcohol, and use it to wipe up the Pick-up Roller [2], Paper Take-up Roller [3] and Separation Roller [4].

1.1.5 Registration Roller

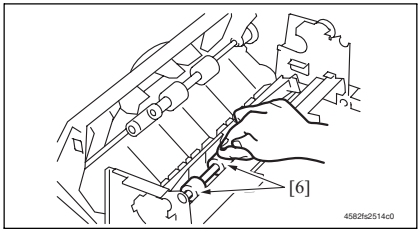


A. Cleaning procedure

1. Open the Paper Take-up Section Cover [1].
2. Remove four screws [2] from the Registration Roller Cover.

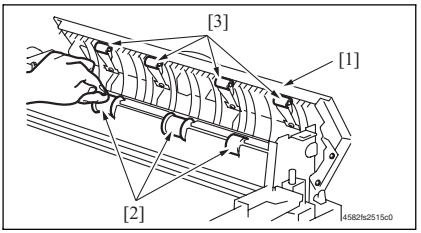


3. Remove the Wire Harness Saddle [4] and the screw [5] from the Registration/Timing Sensor mounting plate [3].



4. Wet a cloth with alcohol, and use it to wipe up the Registration Roller [6].

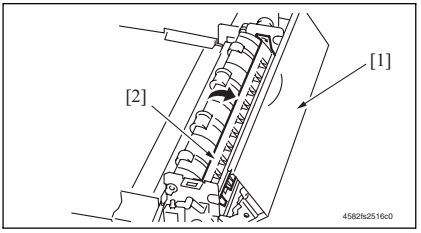
1.1.6 Exit Roller / Roll



A. Cleaning procedure

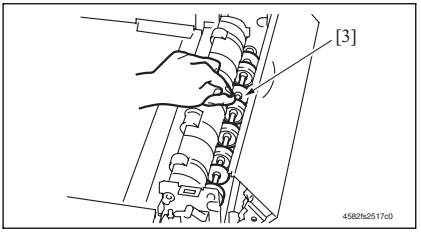
1. Open the Paper Exit Section Cover [1].
2. Wet a cloth with alcohol, and use it to wipe up the Exit Roller [2]/Roll [3].

1.1.7 Turnover Roller



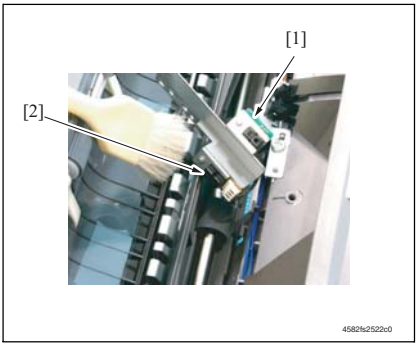
A. Cleaning procedure

1. Open the Paper Exit Section Cover [1], and open the Turnover Guide Plate [2].



2. Wet a cloth with alcohol, and use it to wipe up the Turnover Roller [3].

1.1.8 Sensor Section

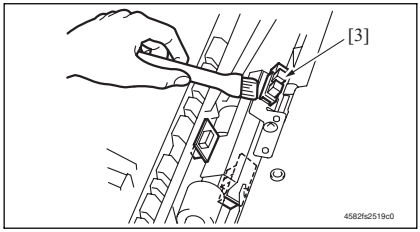


A. Cleaning procedure

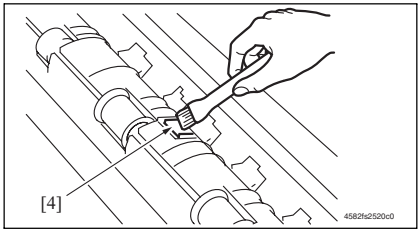
1. Remove the Registration/Timing Sensor mounting plate.

☞ 2-4

2. Clean the Registration [1]/Timing Sensor [2] with a blower brush or the like.



3. Remove the Registration Roller Cover.
☞ 2-4
4. Clean the Paper Empty Sensor [3] with a brush or the like.



5. Open the Paper Exit Section Cover.
6. Clean the Paper Exit Sensor [4] with a brush or the like.

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

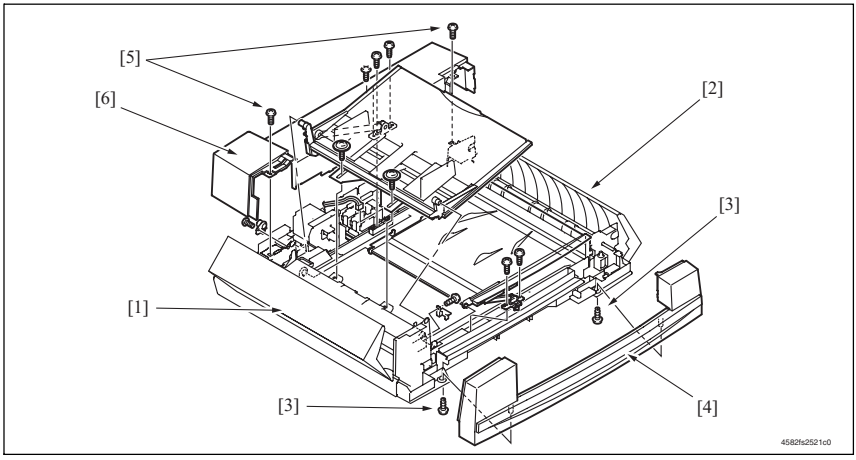
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Front Cover	☞ 2-8
2		Rear Cover	☞ 2-8

2.3 Disassembly/Assembly procedure

2.3.1 Front Cover/Rear Cover



1. Open the Paper Take-up Section Cover [1] and the Paper Exit Section Cover [2].
2. Remove the Front Cover [4] by removing two screws [3].
3. Remove the Rear Cover [6] by removing two screws [5].

III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. Tech. Rep. / Test Mode

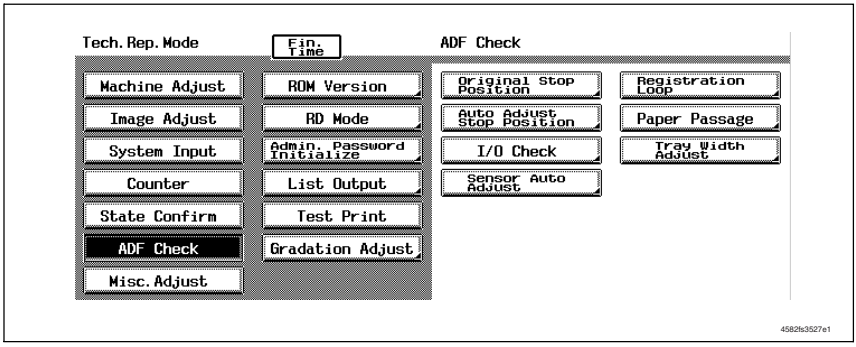
- The Tech. Rep. / Test Modes are set from the Tech. Rep. Mode screen of the main unit.

2.1 Tech. Rep. Mode setting procedure

1. Press the “Utility” key.
2. Touch the “Counter List” Check key.
3. Press the keys, “STOP” --> “0” --> “0” --> “STOP” --> “0” --> “1”, in this order.
4. Enter the service code (8 digits).
5. Select “ADF Check”.

NOTE

- **Do not teach this procedure to others unless it is absolutely necessary.**



2.2 Type of the Tech. Rep. Mode

- The ADF Check in the Tech. Rep. Mode has 7 items as follows.

• Original Stop Position (Adjust)	• Registration Loop (Adjust)
• Auto Adjust Stop Position (Adjust)	• Paper Passage (Test)
• I/O Check (Test)	• Tray Width Adjust (Adjust)
• Sensor Auto Adjust (Adjust)	

2.3 ADF Paper Passage

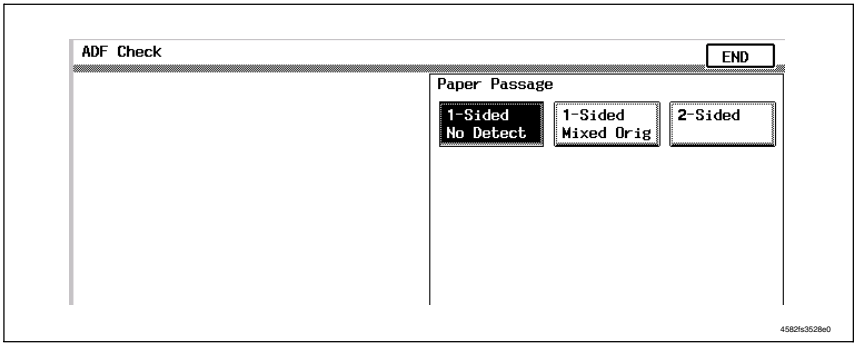
- The Paper Passage motion of the Automatic Document Feeder is checked.

<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the “ADF Check” key.
3. Touch the “Paper Passage” key.
4. Select the Paper Passage Mode to be tested from “1-Sided (No Detect)”, “1-Sided (Mixed Orig)” and “2-Sided”.
5. Set the Original in the Take-up Tray.
   The Start key color changes from orange to green.
6. Press the “Start” key. The operation starts.

NOTES

- **After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.**
- **If the Stop key is pressed during the test operation, the test will be forced to end.**
- **If there is no Original set in the Take-up Tray, the Start key will not work.**
- **All Originals set in the Take-up Tray are passed through. Upon the completion of all Originals passed through, the Paper Through Test ends.**



3. I/O check

3.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

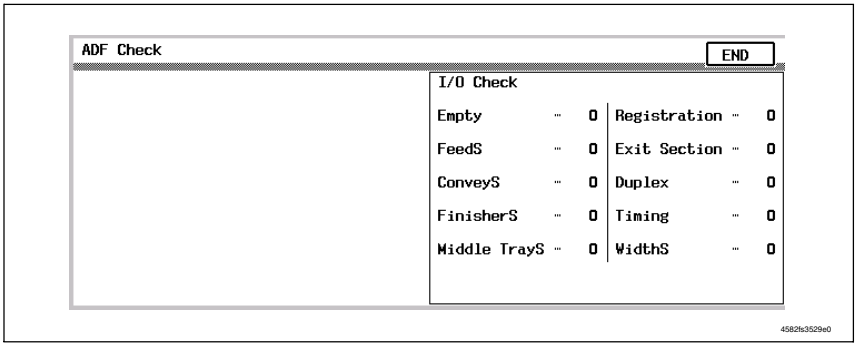
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the “ADF Check” key.
3. Touch the “I/O Check” key.
4. Operate the sensor to check by using paper or the like, and check the screen display. (Paper detected: 1, No paper detected: 0)

3.2 I/O check list

3.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



- Note with care that the Take-up (Feed) Section Open / Close Sensor, the Transport (Convey) Section Open / Close Sensor, the Exit Section Open / Close Sensor and the Middle Tray Open / Close Sensor are displayed as Faulty Set Detected when they are opened. The “Convey S” on the IR. The ADF up to 15 degree open when sensor (PC202)detected.

<Output display of Width S>

- The operation of the sensor can be checked whether it is normal or faulty by changing the guide width of the Document Take-up Tray to change the output value.

A. Sensor monitor

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC4-DF	Empty	Empty Sensor	Paper not present	Paper present
PC3-DF	FeedS	Take-up Cover Sensor	OPEN	CLOSE
PC7-DF	Exit Section	Exit Cover Sensor	OPEN	CLOSE
PC202	ConveyS*	Original Cover Angle Sensor	OPEN	CLOSE
PC8-DF	Middle TrayS	Tray Open/Close Sensor	OPEN	CLOSE
PC1-DF	Registration	Registration Sensor	Paper present	Paper not present
PC6-DF	FinisherS	Exit Sensor	Paper present	Paper not present
PC5-DF	Duplex	Turnover Sensor	Paper present	Paper not present
PC2-DF	Timing	Pick-up Sensor	Paper present	Paper not present
R1-DF	WidthS	Document Size Volume		

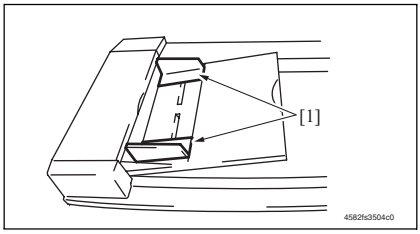
4. Mechanical adjustment

4.1 Adjustment of the tray volume

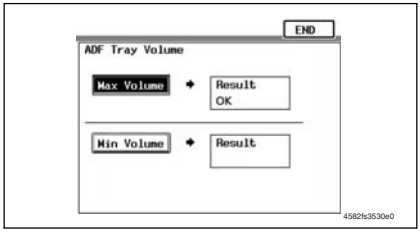
- Read out the value of maximum width and minimum width of the document width detection volume interlocked with the Document Take-up Tray Edge Guide.

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Tray Width Adjust”.

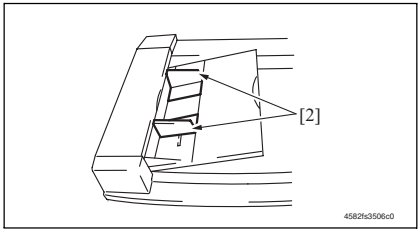
A. Adjustment procedure



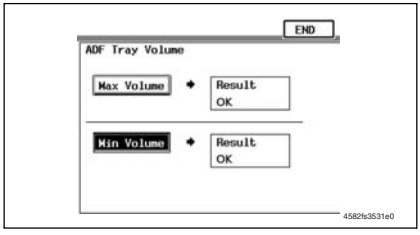
1. Widen the width across the edge guides [1] by sliding them to their maximum width.
2. Touch “Max. Width”.



3. Press the “Start” key. Confirm that the Result is “OK”.



4. Narrow the width across the edge guides [2] by sliding them to their minimum width.



5. Touch “Min. Width”.
6. Press the “Start” key. Confirm that the Result is “OK”.
7. Touch “END”.
8. Touch “Fin. Time” on the Tech. Rep. Mode screen.

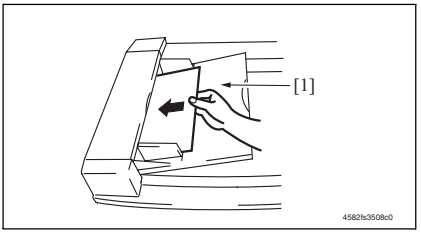
If the Result is “NG”:

- Possible causes includes failure of the document width detection volume, wrong wiring to the volume and failure of the PWB-CONT.

4.2 Adjustment of the document edge guide reference position

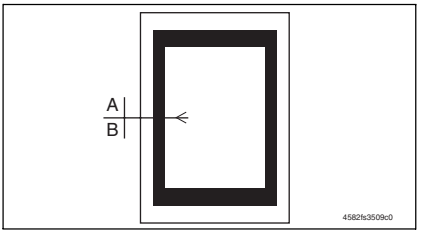
Adjustment standard: Displacement of the document edge should be within 4 ± 1 mm to the FD scale.

A. Adjustment procedure



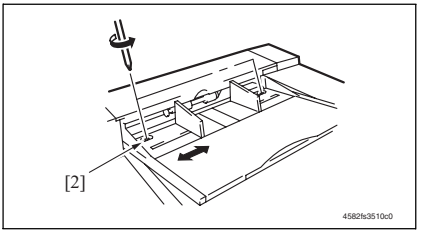
1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:

- Auto Paper
- 1-sided original / 1-side copy



3. Press the “Start” key.
4. Fold the copy in half.
5. With reference to the crease, check to see if the arrow is on the side of A or B.
   Specifications: ± 2 mm from the center

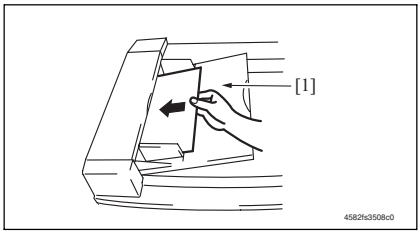
- If the deviation falls outside the specified range, use the following procedure to make an adjustment.



6. Loosen screw [2] (two on the front side and three on the backside) on the document feeding tray.
   If the crease deviates on the side of A, move the tray to the front.
   If the crease deviates on the side of B, move the tray to the rear.
7. Make recheck.

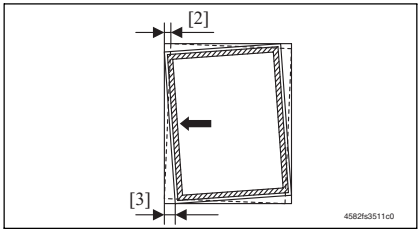
4.3 Adjustment of the document skew

Adjustment standard: Skew should be ± 1.0 % or less with respect to the document length; within 3.0 mm for document of A4 size.



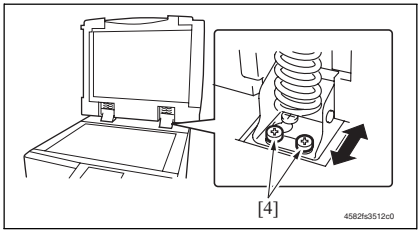
1. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
2. Set up the following functions:

- Auto Paper
- 1-sided original / 1-side copy



3. Press the “Start” key.
4. Check in which direction, [2] or [3], the image tilts on the copy fed out of the machine.
   Specifications: Tilt 3.0 mm max.

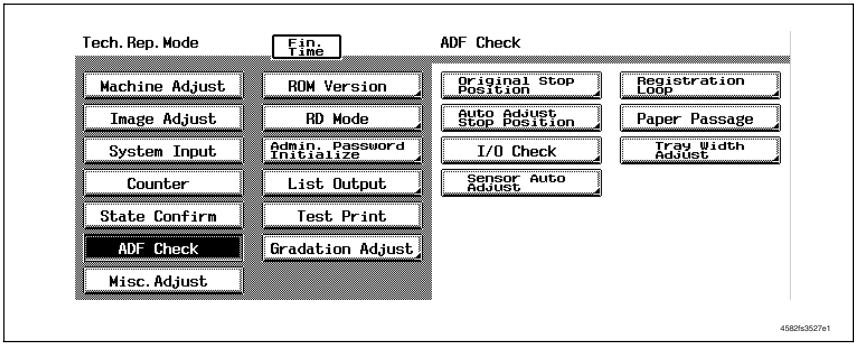
- If the image tilts more than the specifications, perform the following steps to make the adjustment.



5. Loosen two front screws [4] on the right hinge.
6. If the image tilts in direction of [2], move the Document Feeder toward the front.
   If the image tilts in direction of [3], move the Document Feeder toward the rear.
7. Tighten two screws [4].
8. Make recheck.

4.4 Adjustment of the document stop position

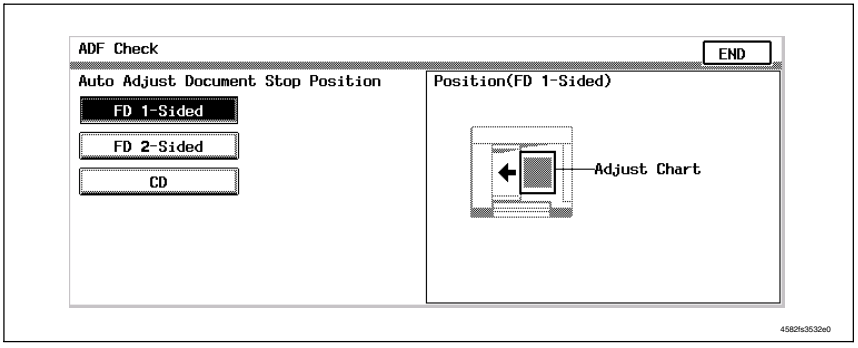
- Adjustment of the document stop position is made automatically and manually (by entering numbers).
  The following adjustment is made in the Tech. Rep. Mode.

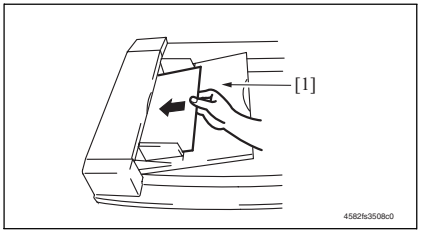


4.4.1 Auto adjust: FD 1-Sided Stop Position

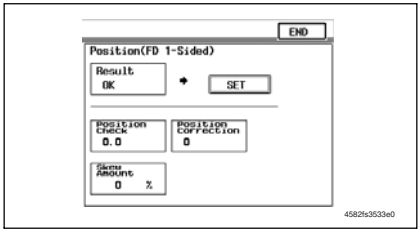
A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Auto Adjust Stop Position”.
4. Touch “FD 1-Sided”.





5. Place the chart furnished with the Document Feeder in the document feeding tray [1] (with the side having an arrow facing up).
6. Press the “Start” key.



7. Make sure that Result is “OK”. Then, touch “SET”.
8. Touch “END”.
9. Touch “Fin. Time” on the Tech. Rep. Mode screen.

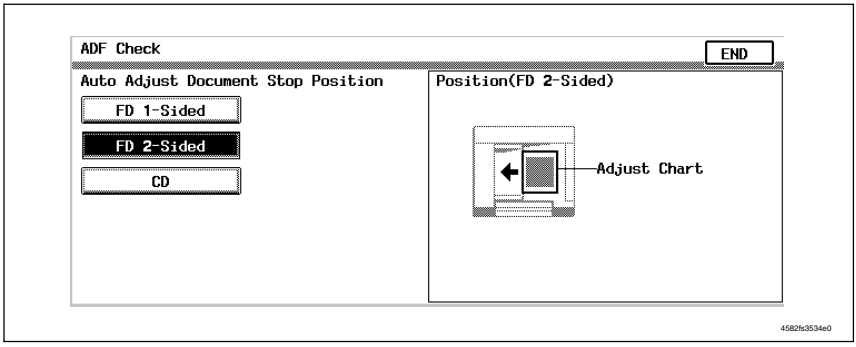
If the Result is “NG”:

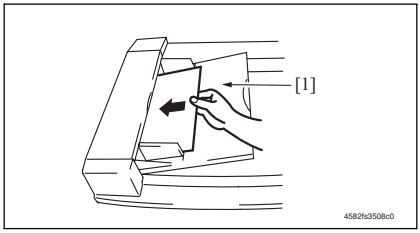
- Check and correct the skew of the document.
- Manually correct the value of “Position Correction”.

4.4.2 Auto adjust: FD 2-Sided stop position

A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Auto Adjust Stop Position”.
4. Touch “FD 2-Sided”.



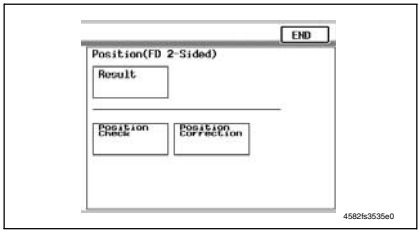


5. Place the chart furnished with the Document Feeder [1] in the document feeding tray.

NOTE

- **Make sure that the blank surface of the chart faces up.**

6. Press the “Start key”.



7. Check that Result is “OK” and then touch “SET”.
8. Touch “END”.
9. Touch “Fin. Time” on the Tech. Rep. Mode screen.

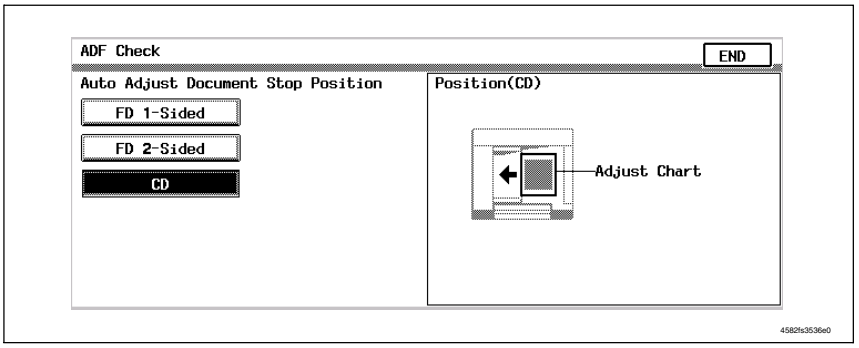
If the Result is “NG”:

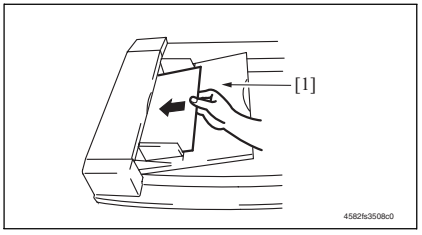
- Check and correct the skew of the document.
- Manually correct the value of “Position Correction”.

4.4.3 Auto adjust: CD image scan start position

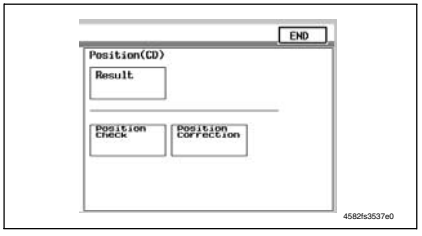
A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Auto Adjust Stop Position”.
4. Touch “CD”.





5. Place the chart furnished with the Document Feeder in the document feeding tray (with the side having an arrow facing up).
6. Press the “Start” key.



7. Check that Result is “OK” and then touch “SET”.
8. Touch “END”.
9. Touch “Fin. Time” on the Tech. Rep. Mode screen.

If the Result is “NG”:

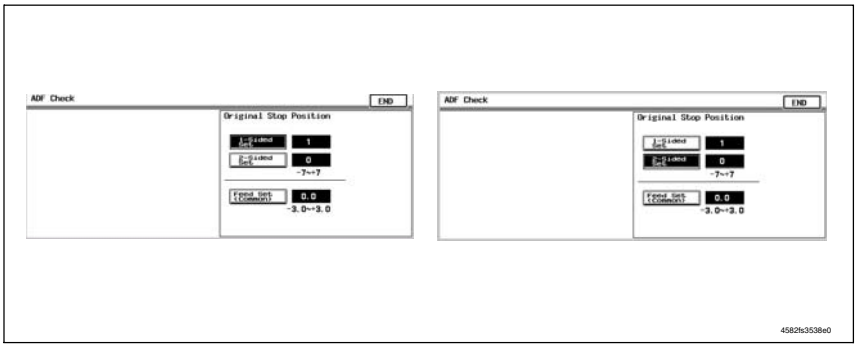
- Check and correct the skew of the document.
- Manually correct the value of “Position Correction”.

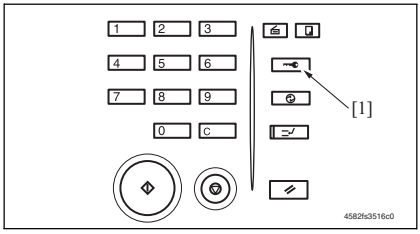
4.4.4 Manual adjust: FD 1-Sided / 2-Sided document stop position adjustment

Adjusted range: -7 mm to + 7 mm

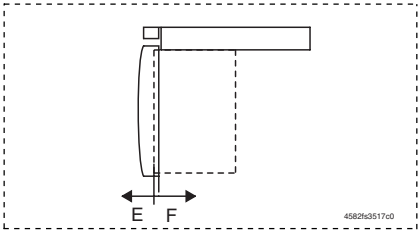
A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Original Stop Position”.





4. Select “1-Sided Set” or “2-Sided Set”.
5. Enter the value from the ten-key pad. (Press the “ID” key to change the +/- code.)



- To shift the position in the direction of F, set the code to +.
- To shift the position in the direction of E, set the code to -.

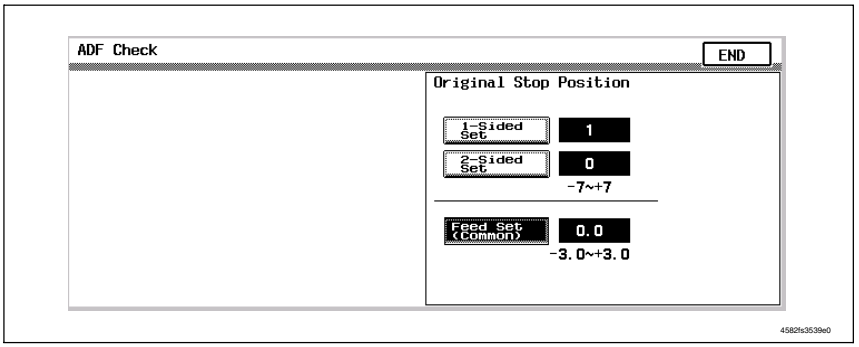
6. Touch “END”.

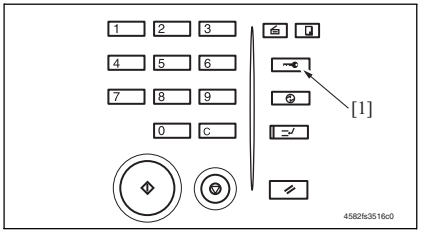
4.4.5 Manual adjust: CD Image scan position adjustment

Adjusted range: -3 mm to + 3 mm

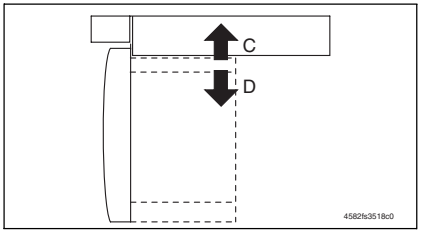
A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Original Stop Position”.





4. Select “Feed Set (Common)”.
5. Enter the value from the ten-key pad. (Press the “ID” key to change the code.)



- To scan the image in the direction of C, set the code to -.
- To shift the image in the direction of D, set the code to +.

6. Touch “END”.

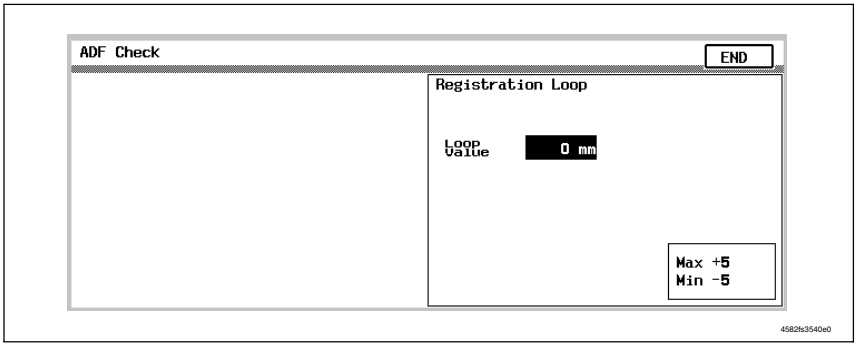
4.5 Adjustment of the loop value

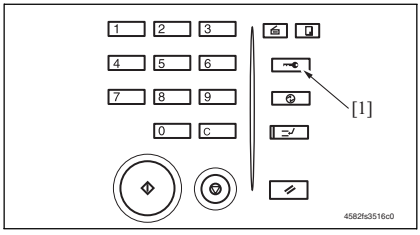
Adjusted range: -5 mm to + 5 mm Default value: 0 (Loop value: 5 mm)

- The loop value is increased by the entered + value and decreased by the entered - value.
- Too much loop value may result in dog-eared document, and too little loop value may result in askew document.

A. Adjustment Procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Registration Loop”.





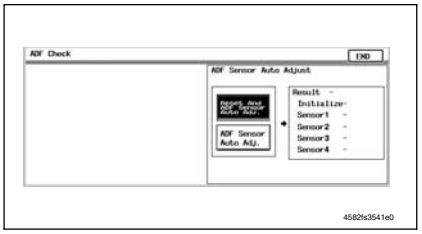
4. Enter the value from the ten-key pad. (Press the “ID” key to change the +/- code.)
5. Touch “END”.

4.6 Automatic adjustment of the sensor

- The detection level of the document through path sensor is automatically adjusted.
- The adjustment has two modes: “Reset and ADF Sensor Auto Adj.” and “ADF Sensor Auto Adj.”.
- Make this adjustment as appropriate after the replacement of the ADF board or in case of the document detection error.

A. Adjustment procedure

1. Set the mode to the Tech. Rep. Mode.
2. Touch “ADF Check”.
3. Touch “Sensor Auto Adjust”.



4. Select “Reset and ADF Sensor Auto Adj.” or “ADF Sensor Auto Adj.”.
5. Press the Start key.
6. If the result is “OK” touch the “END” key on the panel.
7. If the result is “NG” check the influencing sensor, replace it if necessary, and then make readjustment.

Blank page

IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

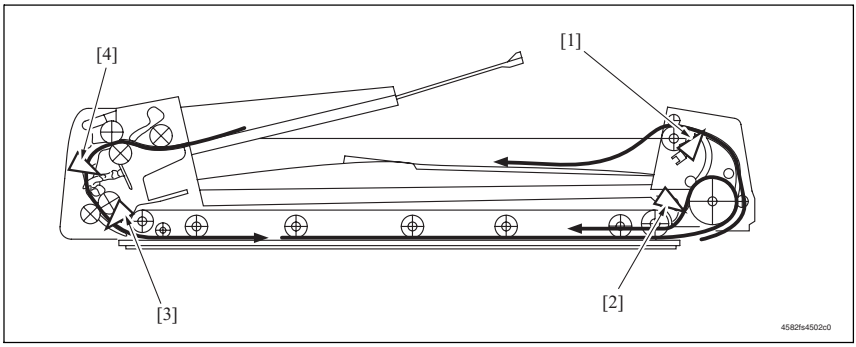
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
Paper Exit / Turnover section	Paper Exit section Cover	☞ 4-4
Transport section	Paper Take-Up section Cover	☞ 4-3
Paper Take-Up section	Paper Take-Up section Cover	☞ 4-2
Transport Tray section	Paper Exit section Cover	☞ 4-5

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1] Exit Sensor	PC6-DF	[3] Pick-up Sensor	PC2-DF
[2] Turnover Sensor	PC5-DF	[4] Registration Sensor	PC1-DF

1.4 Solution

1.4.1 Paper Take-Up section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Registration Sensor	Misfeed is detected if the Registration Sensor (PC1-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started normal rotation.
Misfeed due to paper not reached the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned ON within a preset time after the Take-up Motor (M1-DF) started reverse rotation.

B. Action

Relevant electrical parts	
Registration Sensor (PC1-DF) Pick-up Sensor (PC2-DF) Take-up Motor (M1-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC1-DF I/O, sensor check	PWB-A DF CN7A DF-9	E-2
3	PC2-DF I/O, sensor check	PWB-A DF CN7A DF-12	F-2
4	M1-DF operation check	-	A-4
5	PWB-A DF replacement	-	E-5

1.4.2 Transport section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Pick-Up Sensor	Misfeed is detected if the Pick-up Sensor (PC2-DF) is not turned OFF within a preset time after the Take-up Motor (M1-DF) started reverse rotation.
Misfeed due to paper not reached the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned ON within a preset time after the Transport Motor (M2-DF) started.

B. Action

Relevant electrical parts	
Pick-up Sensor (PC2-DF) Turnover Sensor (PC5-DF) Take-up Motor (M1-DF) Transport Motor (M2-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC2-DF I/O, sensor check	PWB-A DF CN7A DF-12	F-2
3	PC5-DF I/O, sensor check	PWB-A DF CN9A DF-3	G-2
4	M1-DF operation check	-	A-4
5	M2-DF operation check	-	B-4
6	PWB-A DF replacement	-	E-5

1.4.3 Paper Exit / Turnover section misfeed

A. Detection timing

Type	Description
Misfeed due to paper remaining at the Turnover Sensor	Misfeed is detected if the Turnover Sensor (PC5-DF) is not turned OFF within a preset time after the Turnover Sensor (PC5-DF) was tuned ON.
Misfeed due to paper not reached the Exit Sensor (in the 2-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after the Turnover Sensor (PC5-DF) was turned ON in the 2-Sided mode.
Misfeed due to paper remaining at the Exit Sensor	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned OFF within a preset time after the Exit Sensor (PC6-DF) was tuned ON.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF) Exit Motor (M3-DF)	Control Board (PWB-A DF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC5-DF I/O, sensor check	PWB-A DF CN9A DF-3	G-2
3	PC6-DF I/O, sensor check	PWB-A DF CN9A DF-6	H-2
4	M3-DF operation check	-	B-7
5	PWB-A DF replacement	-	E-5

1.4.4 Transport Tray section misfeed

A. Detection timing

Type	Description
Misfeed due to paper not reached the Exit Sensor (in the 1-Sided Mode)	Misfeed is detected if the Exit Sensor (PC6-DF) is not turned ON within a preset time after exit operation started in the 1-Sided Mode.
Misfeed at the Transport Tray	Misfeed is detected if the difference between the paper feeding size measured at the Turnover Sensor (PC5-DF) and that measured at the Exit Sensor (PC6-DF) is 20 mm or more.

B. Action

Relevant electrical parts	
Turnover Sensor (PC5-DF) Exit Sensor (PC6-DF)	Control Board (PWB-A DF)

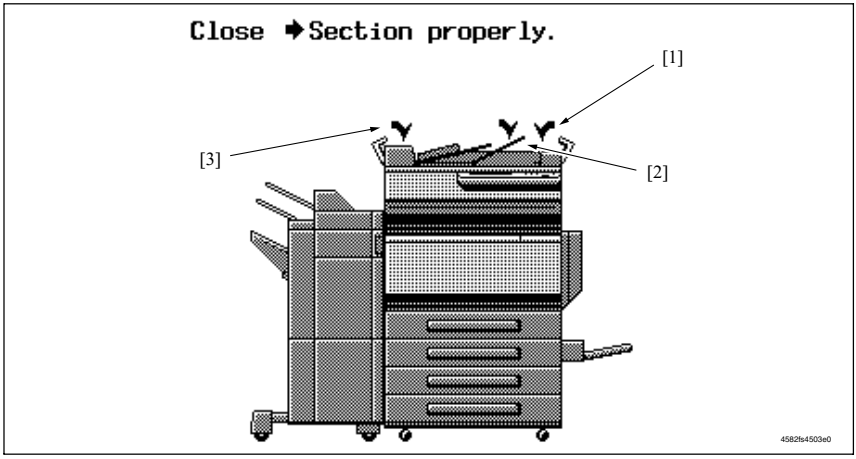
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC5-DF I/O, sensor check	PWB-A DF CN9A DF-3	G-2
3	PC6-DF I/O, sensor check	PWB-A DF CN9A DF-6	H-2
4	PWB-A DF replacement	-	E-5

NOTE

- **Each sensor is automatically adjusted when the Power Switch is turned ON as special means for detecting a paper misfeed. If a sensor adjustment error occurs through this procedure, a misfeed is detected as paper remaining misfeed at the corresponding sensor.**

2. Set error detection

- When the ADF or cover set error for some reason is detected, the Panel of the main unit will have the following display.



<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	Paper Exit section Cover set error	When the Power Switch turn ON.	Paper Exit section Open/ Close Sensor (when light-blocked)
[2]	Transport Tray section Cover set error	When the Power Switch turn ON.	Transport Tray Open/Close Sensor (when light- blocked)
[3]	Paper Take-Up section Cover set error	When the Power Switch turn ON.	Paper Take-Up Section Open/ Close Sensor (when light-blocked)
-	ADF set error	When the document is set in the ADF	Size Reset Switch on the main unit (when turned ON)

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-101/PC-201

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
2004/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Product specifications

1.1 Type

Name	2 way Paper Take-Up Cabinet
Type	Front loading type 2 way paper take-up device
Installation	Desk type
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	56 to 110 g/m^2 (15 to 29-1/4 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Paper Size	A5R to A3, 5-1/2 × 8-1/2R to 11 × 17	
Capacity	3rd Drawer	500 sheets
	4th Drawer	500 sheets

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	15 W or less
Dimensions	570 mm (W) × 263 mm (H) × 548 mm (D) 22-1/2 inch (W) × 10-1/4 inch (H) × 21-1/2 inch (D)
Weight	PC-101:22.0 kg (48-1/2 lb) PC-201:25.9 kg (57 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

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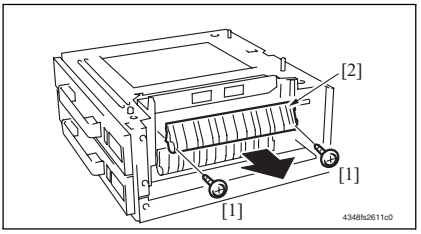
II Maintenance

1. Periodical check

1.1 Maintenance procedure (Periodical check parts)

NOTE
- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

1.1.1 Separation Roller Assy

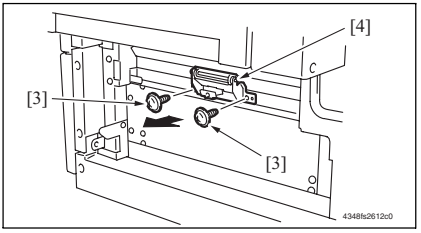


A. Cleaning procedure

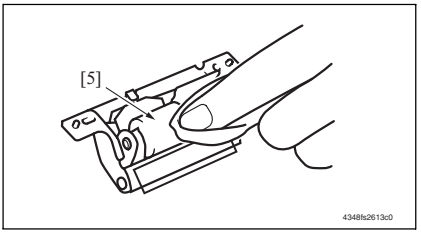
1. Remove the Right Door.

☞ 2-8

2. Remove two screws [1] and remove the Jam Access Cover [2].

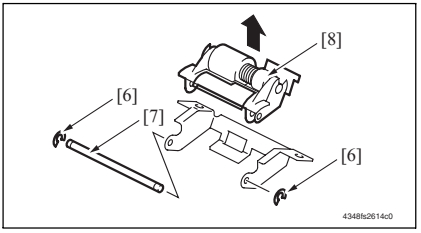


3. Remove two screws [3] and remove the Paper Separation Roller Mounting Bracket Assy [4].



4. Using a soft cloth dampened with alcohol, wipe the Separation Roller [5] clean of dirt.

5. Repeat steps 1 to 4 similarly for the 4th Drawer.



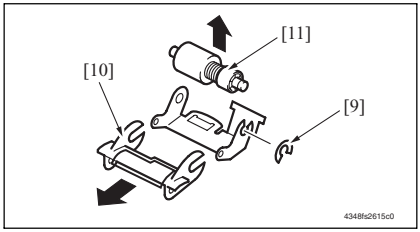
B. Replacing procedure

1. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

2. Remove two C-rings [6] and the shaft [7], and remove the Paper Separation Roller Fixing Bracket Assy [8].

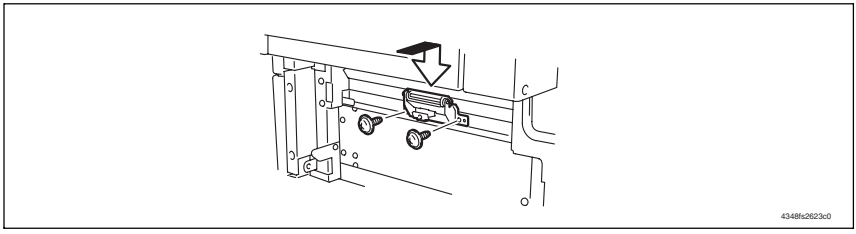
NOTE
- **Be careful not to lose spring at this time.**



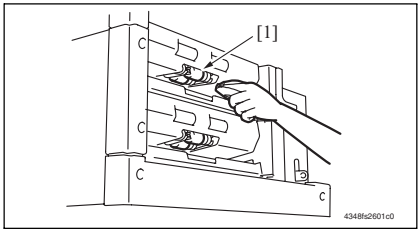
3. Remove the C-ring [9], the Guide [10], and remove the Separation Roller Assy [11].
4. Repeat steps 1 to 3 similarly for the 4th Drawer.

NOTES

- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the copier.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



1.1.2 Paper Take-up Roller

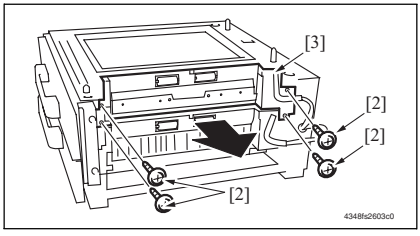


A. Cleaning procedure

1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.



B. Replacing procedure

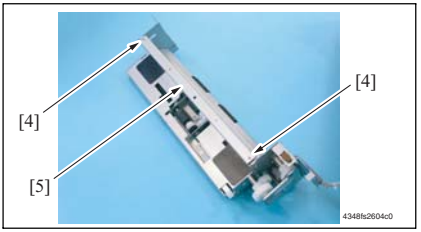
1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)

☞ 2-8

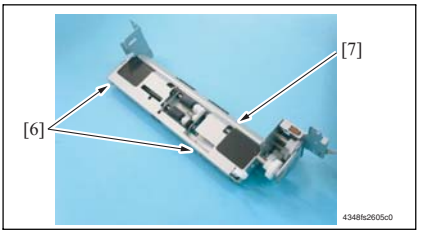
2. Remove the Tray3.(Remove the Tray4 from 4th row.)
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

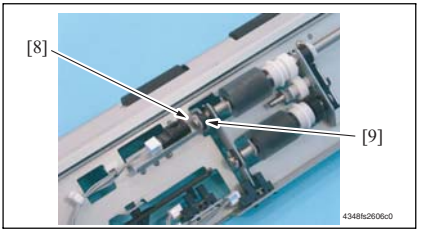
4. Remove four screws [2] and remove the Paper Take-up Unit [3].



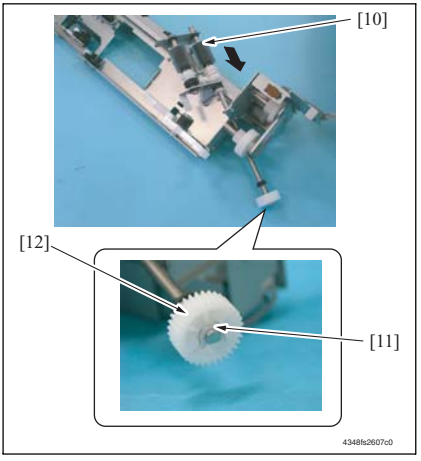
5. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



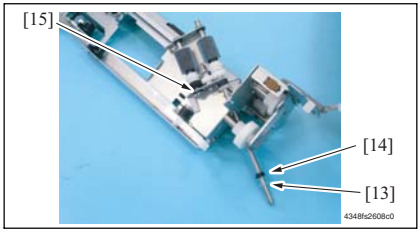
6. Remove two screws [6] and remove the Paper Take-up Cover [7].



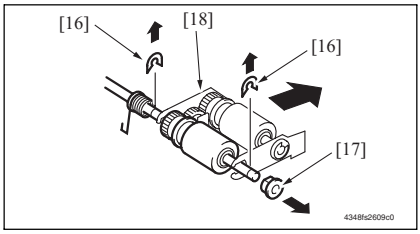
7. Remove the C-ring [8] and remove the bushing [9].



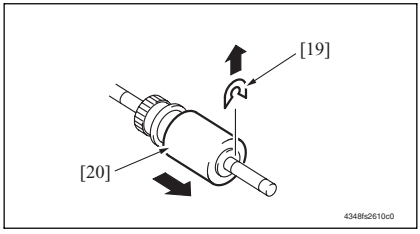
8. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].



9. Remove the C-ring [13], the bushing [14], and remove the shaft Assy [15].



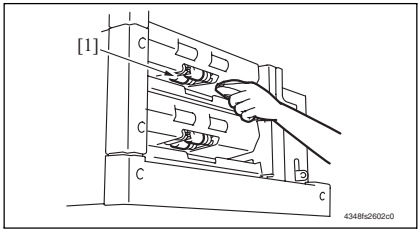
10. Remove two E-rings [16] and the bushing [17], and remove the Pick-up Roller Fixing Bracket Assy [18].



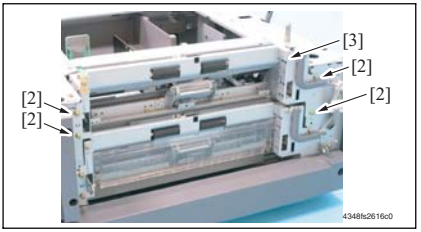
11. Remove the C-ring [19] and remove the Paper Take-up Roller [20].
12. Repeat steps 1 to 11 similarly for the 4th Drawer.

NOTE
- **Replace the Paper Take-up Roller and the Separation Roller Assy at the same time.**

1.1.3 Pick-up Roller



A. Cleaning procedure
1. Remove the Tray3.(Remove the Tray4 from 4th row.)
2. Remove the Paper Separation Roller Mounting Bracket Assy.
☞ 2-1
3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th Drawer.



B. Replacing procedure

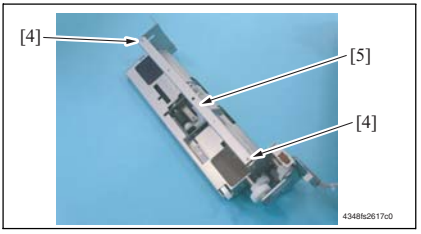
1. Remove the Rear Right Cover. (Remove the Right Lower Cover for 4th row.)

☞ 2-8

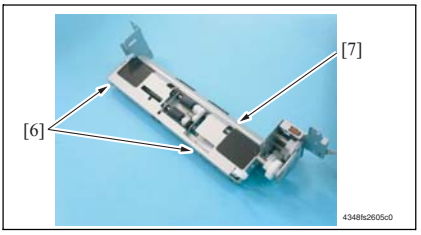
2. Remove the Tray3. (Remove the Tray4 from 4th row.)
3. Remove the Jam Access Cover.

☞ 2-1

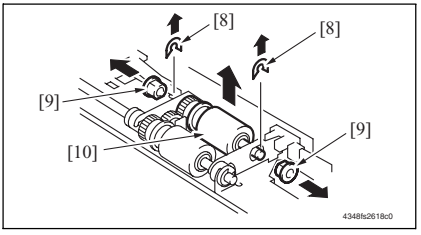
4. Remove four screws [2] and remove the Paper Take-up Unit [3].



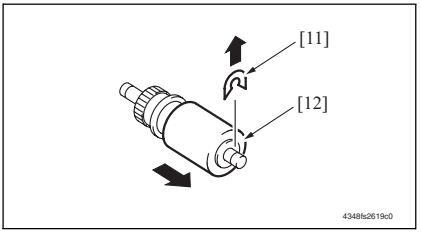
5. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



6. Remove two screws [6] and remove the Paper Take-up Cover [7].

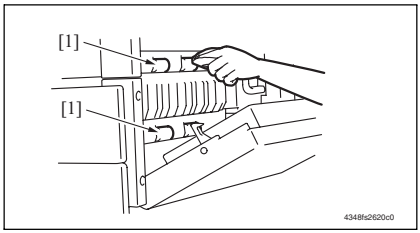


7. Remove two C-rings[8], two bushings [9], and remove the Pick-up Roller Assy [10].



8. Remove the C-ring [11] and remove the Pick-up Roller [12].
9. Repeat steps 1 to 8 similarly for the 4th Drawer.

1.1.4 Vertical Transport Roller



A. Cleaning procedure

1. Open the Right Door.

2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

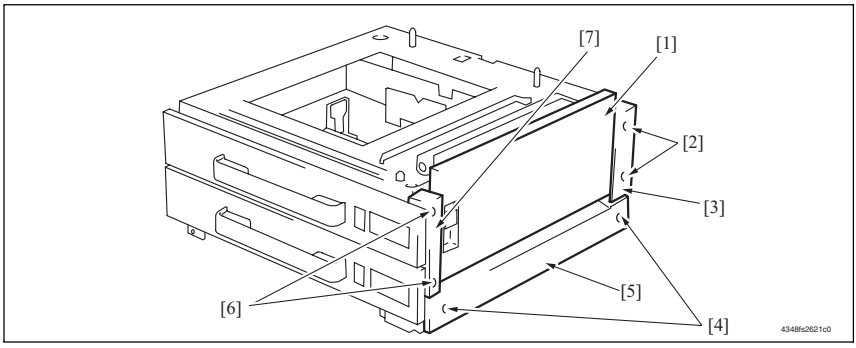
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior parts	Right Door	☞ 2-8
2		Rear Right Cover	☞ 2-8
3		Lower Right Cover	☞ 2-8
4		Front Right Cover	☞ 2-8
5		Rear Cover	☞ 2-8

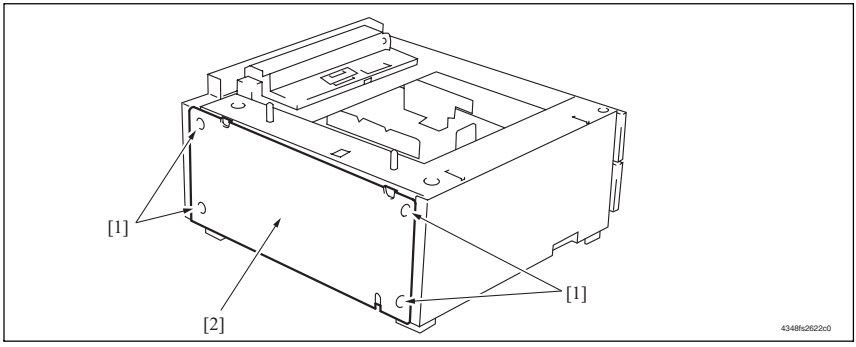
2.3 Disassembly/Assembly procedure

2.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

2.3.2 Rear Cover



1. Remove four screws [1] and remove the Rear Cover [2].

III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. I/O check

2.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

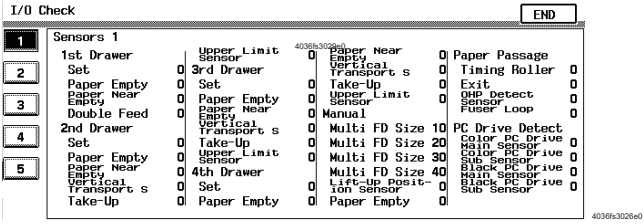
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the "State Confirm" Check key.
3. Touch the "I/O Check" key.

2.2 I/O check list

2.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



2.2.2 I/O check list

A. Sensor monitor 1 (PC-101/PC-201)

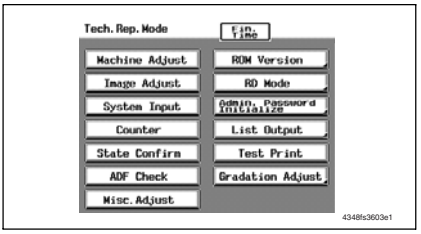
Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC112-PF	Set	Tray3 Set Sensor	Set	Out of position
PC115-PF	Paper Empty	Tray3 Paper Empty Sensor	Paper not present	Paper present
PC113-PF	Paper Near Empty	Tray3 Paper Near-Empty Sensor	Blocked	Unblocked
PC117-PF	Vertical Transport S	Tray3 Vertical Transport Sensor	Paper present	Paper not present
PC116-PF	Take-Up	Tray3 Paper Take-Up Sensor	Paper present	Paper not present
PC114-PF	Upper Limit Sensor	Tray3 Lift-Up Upper Limit Sensor	Raised Position	Not raised
PC121-PF	Set	Tray4 Set Sensor	Set	Out of position
PC124-PF	Paper Empty	Tray4 Paper Empty Sensor	Paper not present	Paper present
PC122-PF	Paper Near Empty	Tray4 Paper Near-Empty Sensor	Blocked	Unblocked
PC126-PF	Vertical Transport S	Tray4 Vertical Transport Sensor	Paper present	Paper not present
PC125-PF	Take-Up	Tray4 Paper Take-Up Sensor	Paper present	Paper not present
PC123-PF	Upper Limit Sensor	Tray4 Lift-Up Sensor	Raised Position	Not raised

3. Mechanical adjustment

3.1 Adjusting the paper reference position

NOTE

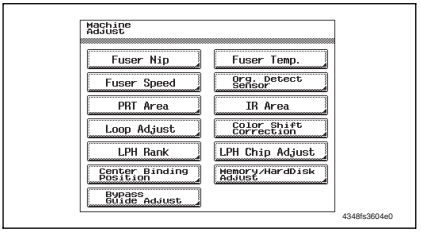
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH Unit has been replaced.
  When the image on the print is offset in the FD direction.
  When a faint image occurs on the leading edge of the image.



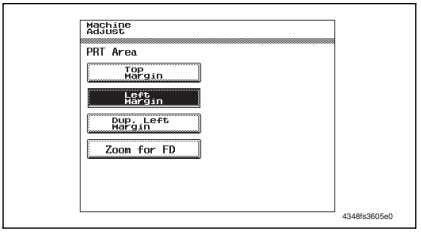
1. Display Tech. Rep. Mode.

☞ For details of how to display the Tech. Rep. Mode screen, see the Adjustment/Setting of the main unit service manual.

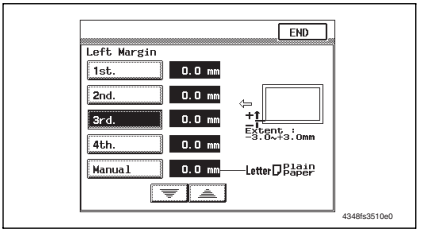
2. Touch “Machine Adjust”.



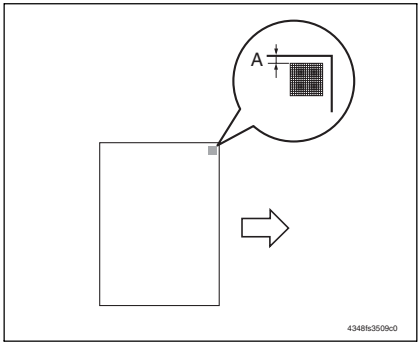
3. Touch “PRT Area”.



4. Touch “Left Margin”.

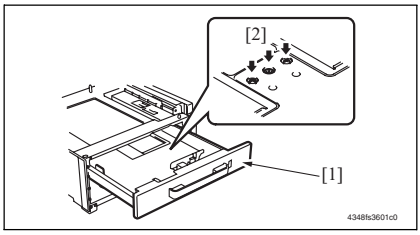


5. Touch “3rd” and then press the “Start” key.
6. A test print will be produced.

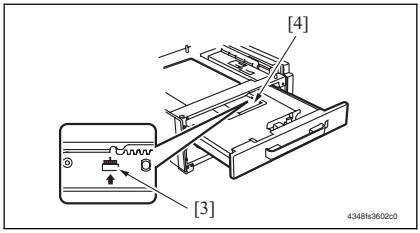


7. Measure the width of printed reference line A.
Specification: 3.0 mm ± 1.0 mm
8. If the measured width A falls outside the specified range, enter the correction value.
9. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



10. Slide out the drawer [1] and unload paper from it.
11. Loosen three screws [2] at the center of the Paper Lifting Plate.



12. Watching the graduations [3] provided in the drawer, move the Edge Guide [4] in the rear.

- If width A is greater than the specified value, move the Edge Guide toward the front.
- If width A is smaller than the specified value, move the Edge Guide toward the rear.

13. Perform another test print and check the reference deviation.
14. Repeat the adjustment until the reference line falls within the specified range.
15. Tighten the adjustment screw.
16. Repeat steps 1 to 15 similarly for the tray4.

IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

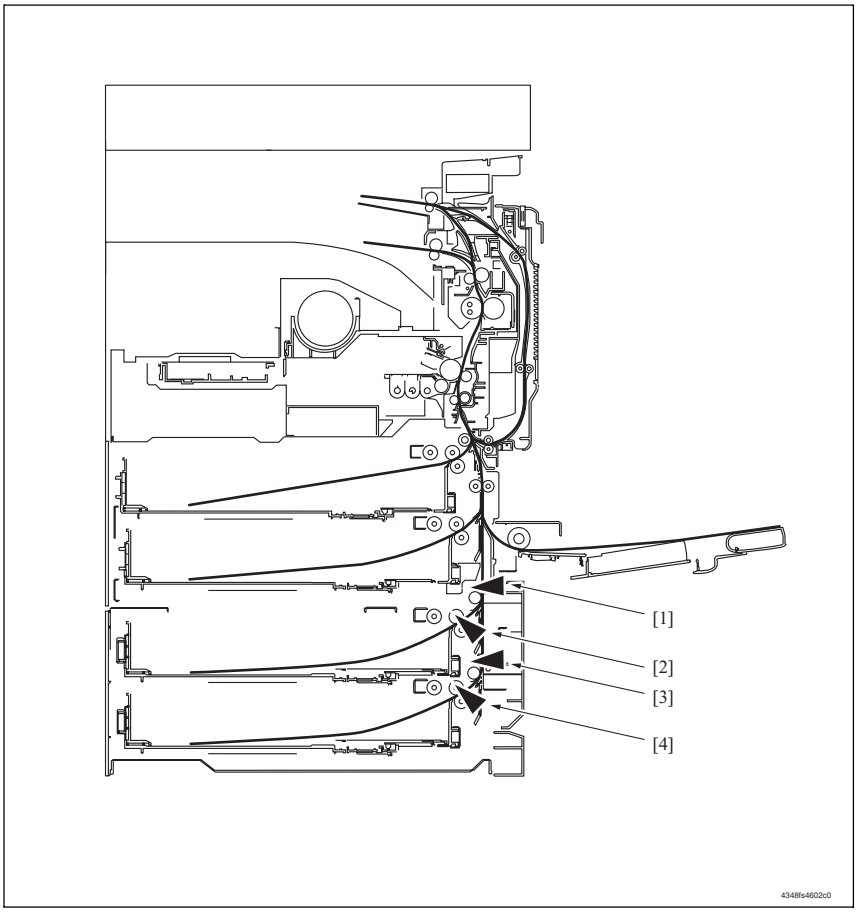
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
Tray 3 Paper Take-Up Section	Right Door	☞ 4-3
Tray 4 Paper Take-Up Section	Right Door	☞ 4-4

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1] Tray3 Vertical Transport Sensor PC117-PF
[2] Tray3 Paper Take-Up Sensor PC116-PF
[3] Tray4 Vertical Transport Sensor PC126-PF
[4] Tray4 Paper Take-Up Sensor PC125-PF

1.4 Solution

1.4.1 Tray3 Paper Take-Up section misfeed (PC-101/PC-201)

A. Detection timing

Type	Description
Tray3 Paper Take-Up section misfeed detection	The leading edge of the paper does not block the Tray3 Vertical Transport Sensor (PC117-PF) even after the set period of time has elapsed after the Tray3 Paper Feed Motor (M122-PF) is energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the Tray3 Vertical Transport Sensor (PC117-PF) has been blocked by a paper.
	The Tray 3 Vertical Transport Sensor (PC117-PF) is not unblocked even after the lapse of a given period of time after PC117-PF has been blocked by a paper.
Tray3 detection of paper remaining	The Tray3 Vertical Transport Sensor (PC117-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray3 Paper Take-Up Sensor (PC116-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Tray3 Paper Take-Up Sensor (PC116-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray2 Vertical Transport Sensor (PC108) Tray3 Paper Feed Motor (M122-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC116-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-8	F-3
3	PC117-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-11	F-3
4	PC108 I/O, sensor check	PWB-Z PJ6Z-11	W-2
5	M122-PF operation check	-	E-3
6	PWB-C2 PF replacement	-	E-5

1.4.2 Tray4 Paper Take-Up section misfeed (PC-201)

A. Detection timing

Type	Description
Tray4 Paper Take-Up section misfeed detection	The leading edge of the paper does not block the Tray4 Vertical Transport Sensor (PC126-PF) even after the set period of time has elapsed after the Tray4 Paper Feed Motor (M123-PF) is energized.
	The Tray3 Vertical Transport Sensor (PC117-PF) is not blocked even after the lapse of a given period of time after the Tray4 Vertical Transport Sensor (PC126-PF) has been blocked by a paper.
	The Tray4 Vertical Transport Sensor (PC126-PF) is not unblocked even after the lapse of a given period of time after PC126-PF has been blocked by a paper.
Tray4 detection of paper remaining	The Tray4 Vertical Transport Sensor (PC126-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Tray4 Paper Take-Up Sensor (PC125-PF) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Tray4 Paper Take-Up Sensor (PC125-PF) Tray4 Vertical Transport Sensor (PC126-PF) Tray3 Vertical Transport Sensor (PC117-PF) Tray4 Paper Feed Motor (M123-PF)	Main Control Board (PWB-C2 PF)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC125-PF I/O, sensor check	PWB-C2 PF PJ10C2 PF-8	E-8
3	PC126-PF I/O, sensor check	PWB-C2 PF PJ11C2 PF-2	E-8
4	PC117-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-11	F-3
5	M123-PF operation check	-	F-8
6	PWB-C2 PF replacement	-	E-5

2. Trouble code

2.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.

2.2 Trouble code list

Code	Item	Description
C0900	3rd Drawer Lift-Up Motor Failure	• The Lift-Up Sensor is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
C0950	4th Drawer Lift-Up Motor Failure	

2.3 How to reset

- Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board to reset the following malfunctions: scanner-related malfunctions, fusing-related malfunctions, exposure lamp-related malfunctions and C3FFF.
- For any other malfunctions, open and close the Front Door or turn OFF and ON the Power Switch.

2.4 Solution

2.4.1 C0900: Tray3 Lift-Up Motor Failure
C0950: Tray4 Lift-Up Motor Failure

A. Detection timing

Malfunction code	Description
C0900	The Lift-Up Sensor is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
C0950	

B. Action

Relevant electrical parts	
Lift-Up Motor 1 (M124-PF) Tray4 Lift-Up Motor (M125-PF) Tray3 Lift-Up Upper Limit Sensor (PC114-PF) Tray4 Lift-Up Sensor (PC123-PF)	Main Control Board (PWB-C2 PF) main unit Control Board (PWB-MC) main unit DC Power Supply (PU1)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	-	-
3	Check the PU1 connector for proper connection, and correct as necessary.	-	-
4	PC114-PF I/O, sensor check	PWB-C2 PF PJ6C2 PF-3	G-3
5	PC123-PF I/O, sensor check	PWB-C2 PF PJ10C2 PF-3	D-8
6	M124-PF operation check	PWB-C2 PF PJ4C2 PF-5,4	D-3
7	M125-PF operation check	PWB-C2 PF PJ8C2 PF-12,13	G-3
8	PWB-C2 PF replacement	-	E-5
9	PWB-MC replacement	-	-
10	PU1 replacement	-	-

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-401

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
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NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
2004/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Product specifications

1.1 Type

Name	Large Capacity Tray
Type	Front loading type LCT
Installation	Desk type
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	56 to 110 g/m^2 (15 to 29-1/4 lb)
	Recycled paper	60 to 90 g/m^2 (16 to 24 lb)
Paper Size	A4, 8-1/2 × 11	
Capacity	2500 sheets (80 g/m^2, 21-1/4 lb)	

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 %
Max. Power Consumption	45 W or less
Dimensions	570 mm (W) × 263 mm (H) × 548 mm (D) 22-1/2 inch (W) × 10-1/4 inch (H) × 21-1/2 inch (D)
Weight	25.9 kg (57 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

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II Maintenance

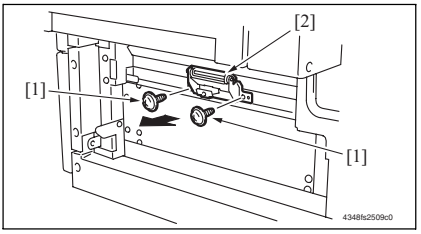
1. Periodical check

1.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

1.1.1 Separation Roller Assy

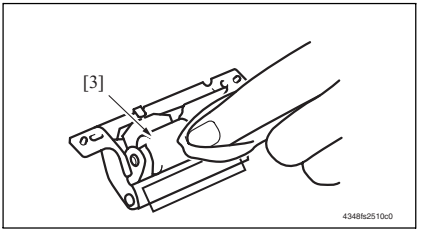


A. Cleaning procedure

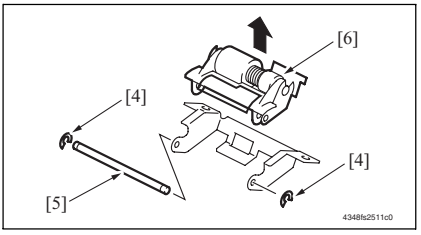
1. Remove the Right Door.

☞ 2-7

2. Remove two screws [1] and remove the Paper Separation Roller Mounting Bracket Assy [2].



3. Using a soft cloth dampened with alcohol, wipe the Separation Roller [3] clean of dirt.



B. Replacing procedure

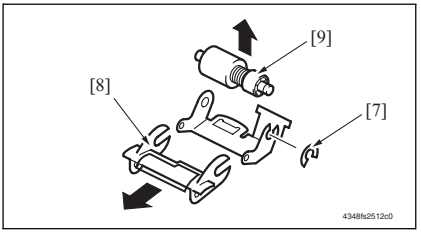
1. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

2. Remove two C-rings [4] and the shaft [5], and remove the Paper Separation Roller fixing Bracket Assy [6].

NOTE

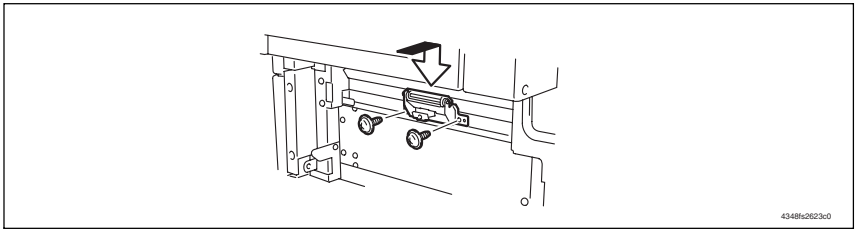
- **Be careful not to lose spring at this time.**



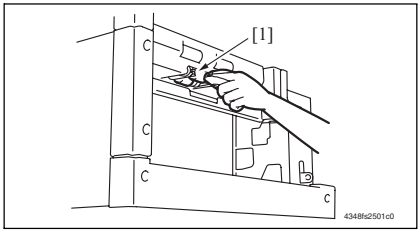
3. Remove the C-ring [7], the Guide [8], and remove the Separation Roller Assy [9].

NOTES

- **Install the Separation Roller Assy while pressing the holder down so that it aligns to the metal bracket of the copier.**
- **Make sure that the Separation Roller Assy is not tilted to the right or left when installed.**



1.1.2 Paper Take-up Roller

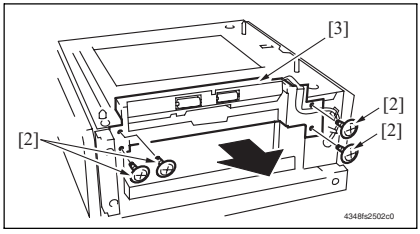


A. Cleaning procedure

1. Remove the Tray3.
2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

3. Using a soft cloth dampened with alcohol, wipe the Paper Take-Up Roller [1] clean of dirt.



B. Replacing procedure

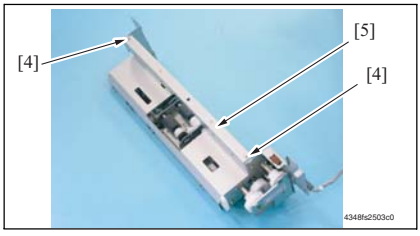
1. Remove the Rear Right Cover.

☞ 2-7

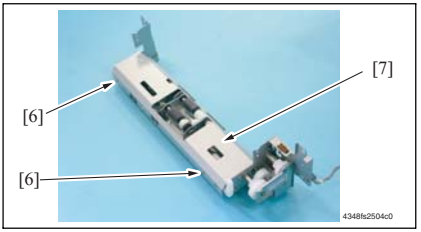
2. Remove the Tray3.
3. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

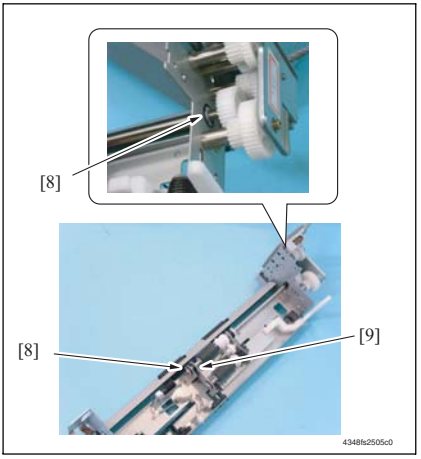
4. Remove four screws [2] and remove the Paper Take-up Unit [3].



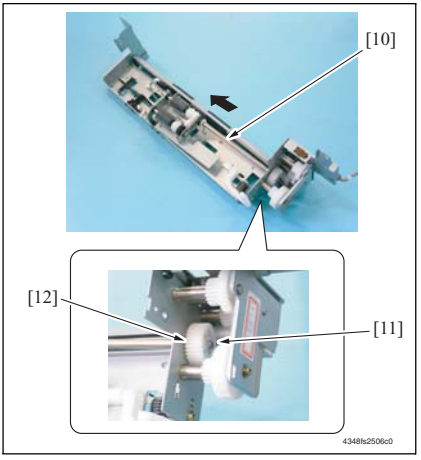
5. Remove two screws [4] and remove the Mounting Frame [5] for the Paper Separation Roller Mounting Bracket Assy.



6. Remove two screws [6] and remove the Paper Take-up Cover [7].

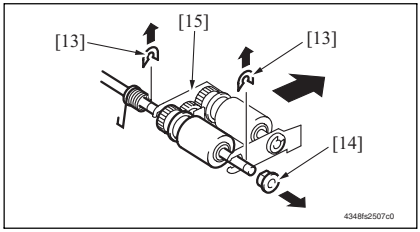


7. Remove two C-rings [8] and remove the bushing [9].

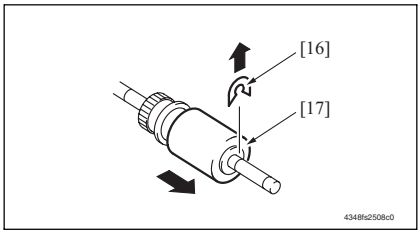


8. Shift the Shaft Assy [10] in the orientation as shown on the left, and remove the C-ring [11] and the gear [12].

9. Remove the shaft Assy [10].



10. Remove two E-rings [13] and the bushing [14], and remove the Pick-up Roller Fixing Bracket Assy [15].

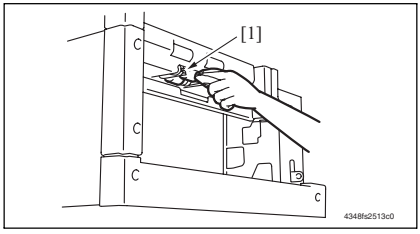


11. Remove the C-ring [16] and remove the Paper Take-up Roller [17].

NOTE

- **Replace the Paper Take-up Roller and the Separation Roller Assy at the same time.**

1.1.3 Pick-up Roller



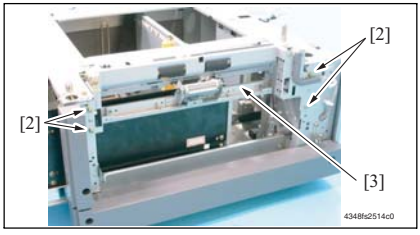
A. Cleaning procedure

1. Remove the Tray3.

2. Remove the Paper Separation Roller Mounting Bracket Assy.

☞ 2-1

3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller [1] clean of dirt.



B. Replacing procedure

1. Remove the Rear Right Cover.

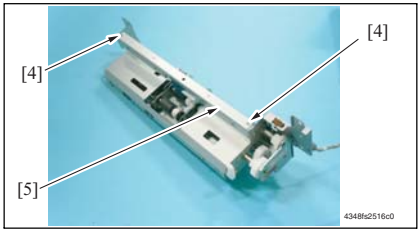
☞ 2-7

2. Remove the Tray3.

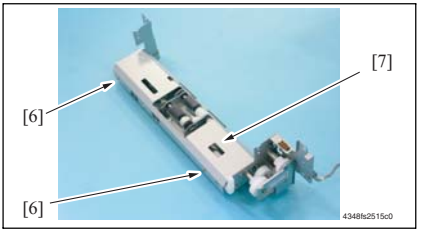
3. Remove the Right Door.

☞ 2-7

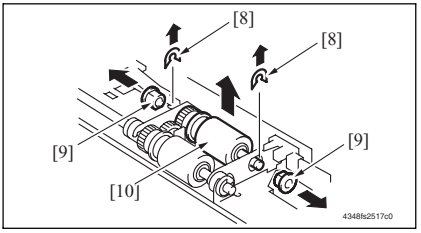
4. Remove four screws [2] and the Paper Take-up Unit [3].



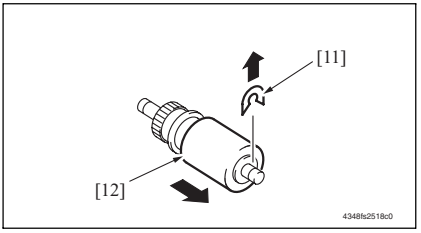
5. Remove two screws [4] and remove the Paper Separation Roller Mounting Bracket Assy [5] together with frame.



6. Remove two screws [6] and remove the Paper Take-up Cover [7].

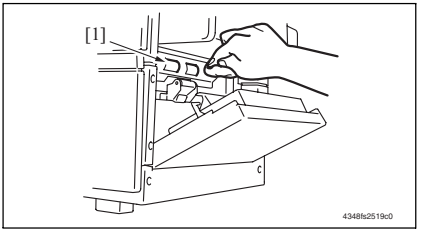


7. Remove two C-rings [8], two bushings [9], and the Pick-up Roller Assy [10].



8. Remove the C-ring [11] and remove the Pick-up Roller [12].

1.1.4 Vertical Transport Roller



A. Cleaning procedure

1. Open the Right Door.

2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller [1] clean of dirt.

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

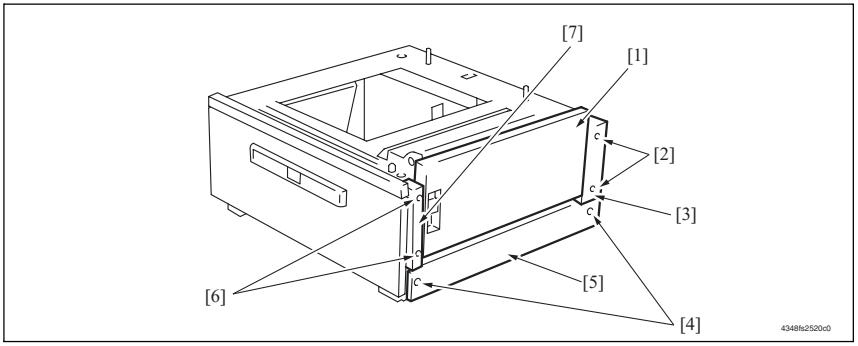
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Right Door	☞ 2-7
2		Rear Right Cover	☞ 2-7
3		Lower Right Cover	☞ 2-7
4		Front Right Cover	☞ 2-7
5		Rear Cover	☞ 2-7
6	Unit	Drawer	☞ 2-7
7		Wire	☞ 2-7

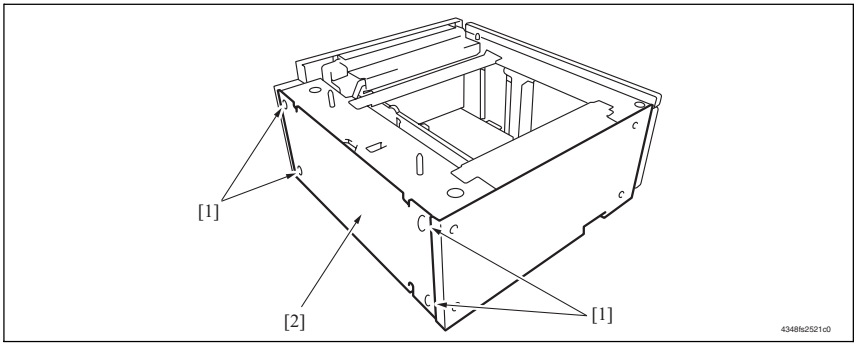
2.3 Disassembly/Assembly procedure

2.3.1 Right Door/Rear Right Cover/Lower Right Cover/Front Right Cover



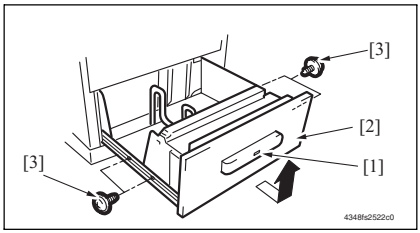
1. Open the Right Door [1].
2. Remove the Right Door [1].
3. Remove two screws [2] and remove the Rear Right Cover [3].
4. Remove two screws [4] and remove the Lower Right Cover [5].
5. Remove two screws [6] and remove the Front Right Cover [7].

2.3.2 Rear Cover

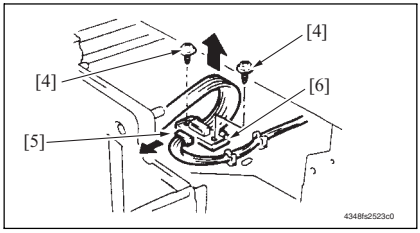


1. Remove four screws [1] and remove the Rear Cover [2].

2.3.3 Drawer



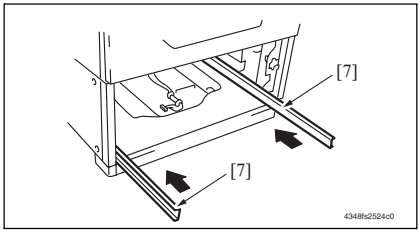
1. Press the Drawer Eject Button [1] and slide out the drawer [2].
2. Remove the paper.
3. Remove four screws [3] and slide out the drawer [2].



4. Remove two screws [4], the connector [5], and remove the Connector Board [6].
5. Remove the Drawer.

NOTE

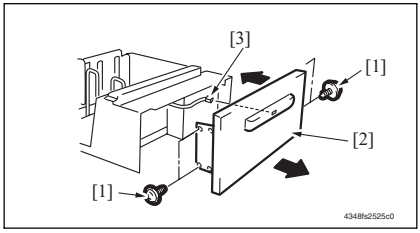
- **When removing the Connector Board, use care not to drop the drawer from the guide rail.**



NOTE

- **To prevent injuries, press the guide rail [7] inside the machine.**

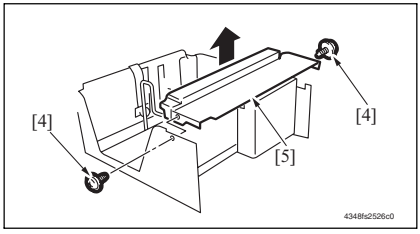
2.3.4 Wire



1. Remove the Drawer.

☞ 2-8

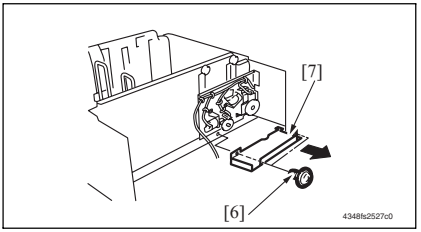
2. Remove four screws [1] and remove the Front Cover Assy [2].
3. Unplug the connector [3].



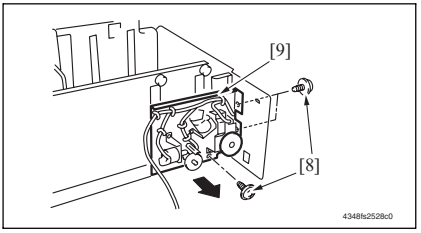
4. Remove two screws [4] and the Inner Cover Assy [5].

NOTE

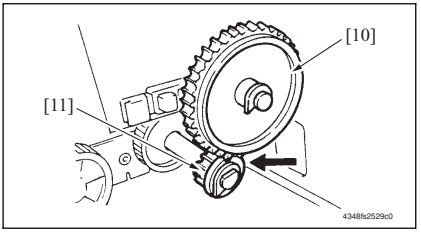
- **Do not peel off pulley protective mylar sheet.**



5. Remove two screws [6] and remove the Driver Cover [7].

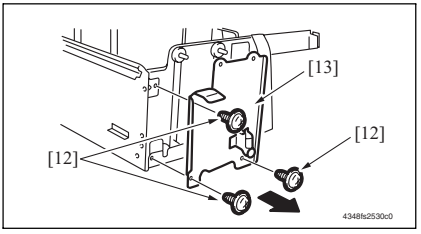


6. Remove three screws [8] and remove the Driver Mounting Plate Assy [9].

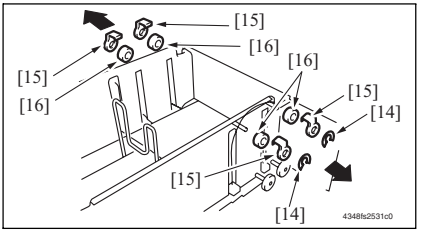


NOTE

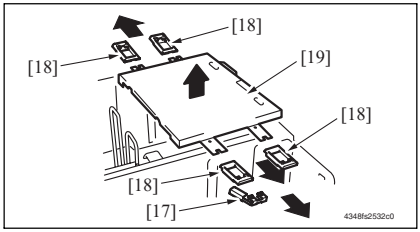
- **When assembling, be sure to engage rib of gear 1 [10] with convex section of gear 2 [11].**



7. Remove three screws [12] and remove the Reinforcement Bracket Assy [13].

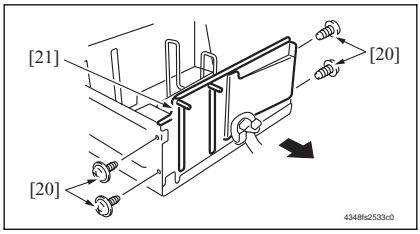


8. Remove two C-clips [14].
9. Remove four Pulley Covers [15].
10. Unhook four pulleys [16].

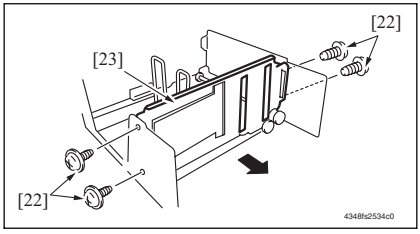


11. Remove the Ground Plate [17].
12. Remove four Cable Holding Jigs [18] and remove the Main Drawer [19].

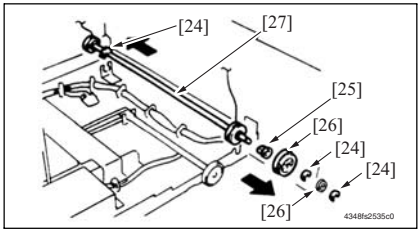
NOTE
- **Use care not to bend the wires.**



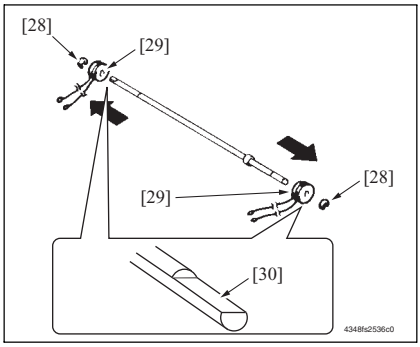
13. Remove four screws [20] and remove the Rear Trailing Edge Assy [21].



14. Remove four screws [22] and remove the Front Trailing Edge Assy [23].



15. Remove three C-rings [24], the bushing [25], and two gears [26].
16. Remove the Take-up Drum Assy [27].



17. Remove two C-rings [28]and the Take-up Drum [29].

NOTES
- **Take care not to lose fixing pins.**
- **When reinstalling the Take-up Drum, check that the direction of the wire coming from both Take-up Drums are the same.**
- **Install so that cut parts [30] at both ends of shaft face up.**

III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. I/O check

2.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

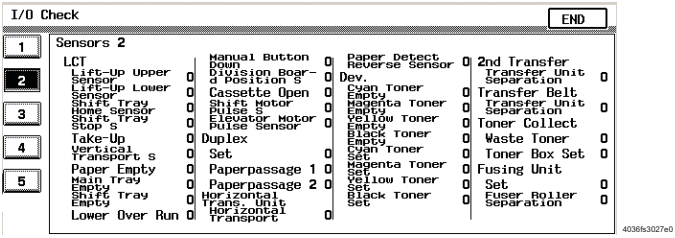
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the "State Confirm" Check key.
3. Touch the "I/O Check" key.

2.2 I/O check list

2.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



2.2.2 I/O check list

A. Sensor monitor 2

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC4-LCT	Lift-Up Upper Sensor	Tray Upper Limit Sensor	Raised Position	Not raised
PC13-LCT	Lift-Up Lower Sensor	Tray Lower Position Sensor	Lowered Position	Not lowered
PC12-LCT	Shift Tray Home Sensor	Shifter Home Position Sensor	At home	Not at home
PC11-LCT	Shift Tray Stop S	Shifter Return Position Sensor	Return position	Not at return position
PC1-LCT	Take-Up	Paper Feed Sensor	Paper present	Paper not present
PC2-LCT	Vertical Transport S	LCT Vertical Transport Sensor	Paper present	Paper not present
PWB-E LCT	Paper Empty	Paper Empty Board	Paper present	Paper not present
PC3-LCT	Main Tray Empty	Upper Paper Empty Sensor	Paper present	Paper not present
PC9-LCT	Shift Tray Empty	Shift Tray Paper Empty Sensor	Paper present	Paper not present
PC7-LCT	Lower Over Run	Lower Limit Sensor	malfunction	operational
UN1-LCT	Manual Button Down	Paper Descent Key	ON	OFF
PC14-LCT	Division Board Position S	Shift Gate Home Position Sensor	At home	Not at home

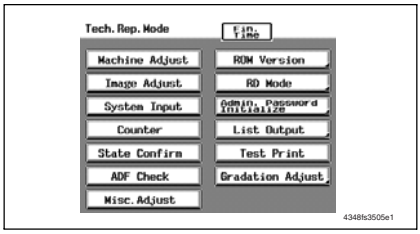
Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC6-LCT	Cassette Open	Tray Set Sensor	Set	Out of position
PC8-LCT	Shift Motor Pulse S	Shift Motor Pulse Sensor	Blocked	Unblocked
PC10-LCT	Elevator Motor Pulse Sensor	Elevator Motor Pulse Sensor	Blocked	Unblocked

3. Mechanical adjustment

3.1 Adjusting the paper reference position

NOTE

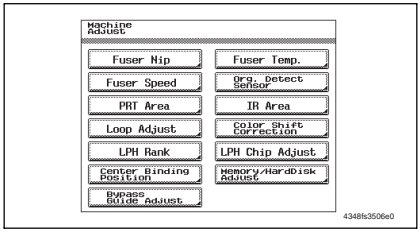
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH Unit has been replaced.
  When the image on the print is offset in the FD direction.
  When a faint image occurs on the leading edge of the image.



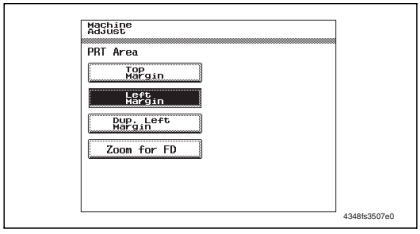
1. Display Tech. Rep. Mode.

☞ For details of how to display the Tech. Rep. Mode screen, see the Adjustment/Setting of the main unit service manual.

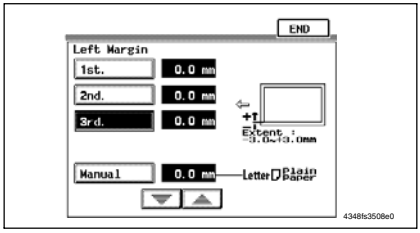
2. Touch “Machine Adjust”.



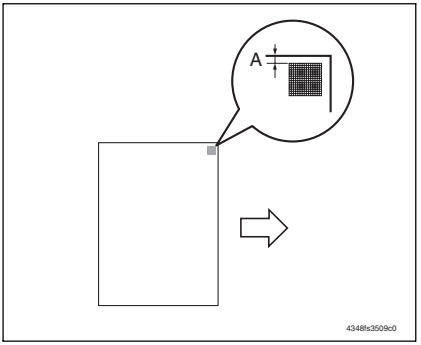
3. Touch “PRT Area”.



4. Touch “Left Margin”.

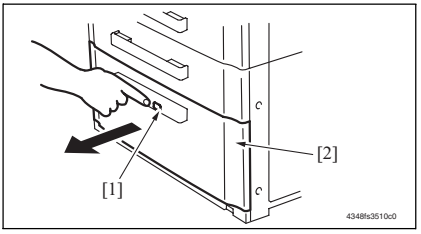


5. Touch “3rd” and then press the “Start” key.
6. A test print will be produced.

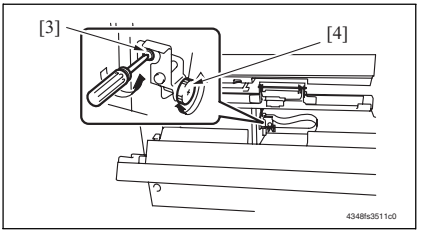


7. Measure the width of printed reference line A.
Specification: 3.0 mm ± 1.0 mm
8. If the measured width A falls outside the specified range, enter the correction value.
9. Produce another test print and check to see if width A falls within the specified range.

- **If adjustment cannot be completed only by inputting numeric value, perform adjustment according to the following procedure.**



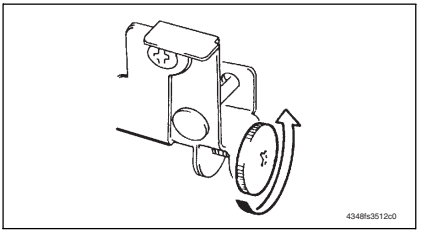
10. Press the Drawer Release button [1] and then slide out the drawer [2] from the Paper Feed Cabinet.



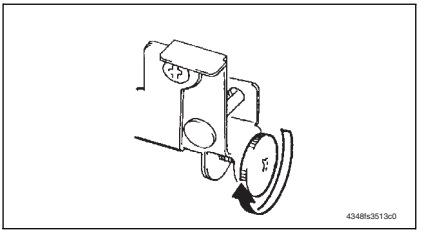
11. Open the Right Door.
12. Loosen the adjustment screw [3] and turn screw D [4] to make the adjustment.

NOTE

- **Do not damage the passage surface of the Right Door.**



- If width A is greater than the specified value
  Turn screw D counterclockwise.

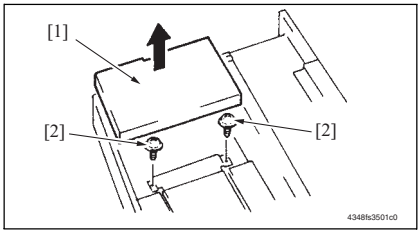


- If width A is smaller than the specified value
  Turn screw D clockwise.

13. Perform another test print and check the reference deviation.

14. Repeat the adjustment until the reference line falls within the specified range.
15. Tighten the adjustment screw.

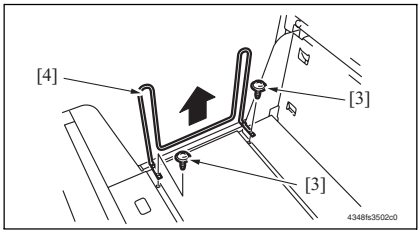
3.2 Shifter movement timing belt adjustment



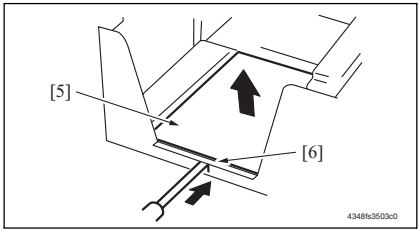
1. Slide out the Drawer and remove it.
2. Lift the Main Drawer [1], and remove two screws [2] fixing the Shift Tray.

NOTE

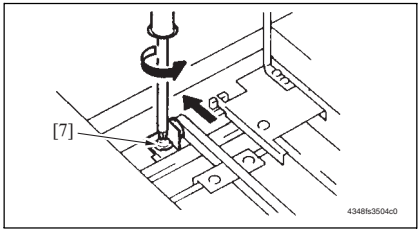
- **When reinstalling, use caution because the wire of the Main Drawer comes off easily.**



3. Remove two screws [3] and remove the Shifter [4].



4. Push the tab [6] of the Shift Tray [5] as shown on the left and release the lock.
5. Remove the Shift Tray [5].



6. Loosen the screw [7] fixing the Tension Pulley Assy as shown to the left and move it in the direction of the arrow.
7. After moving the Shifter, tighten the fixing screw [7].

IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

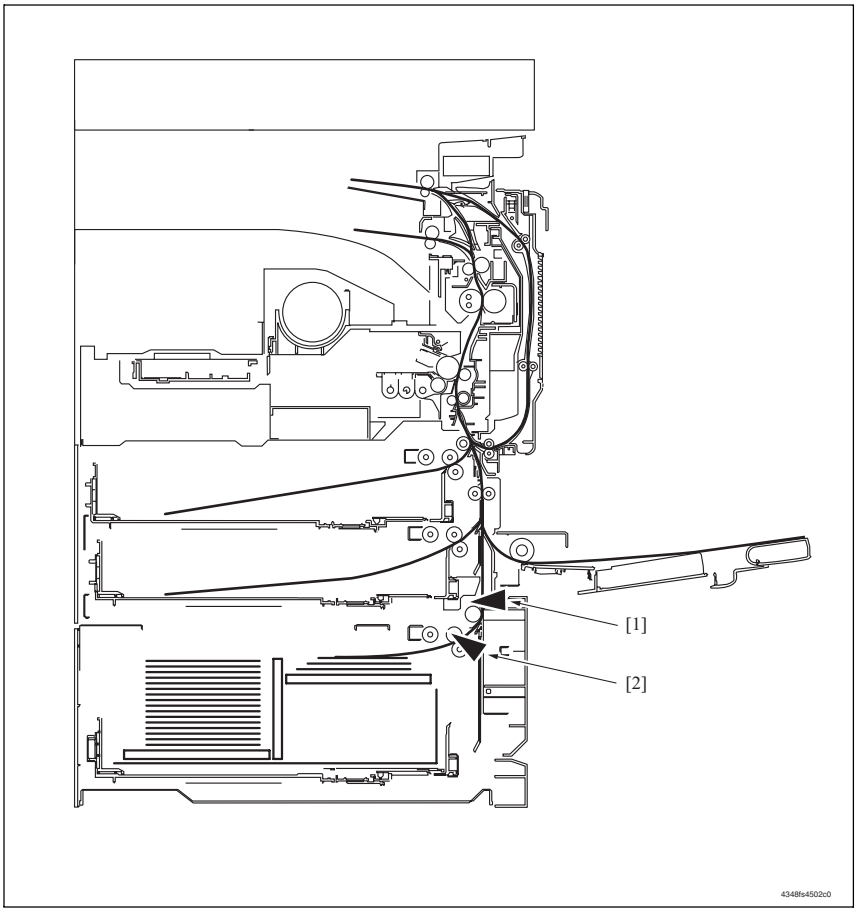
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
LCT Paper Take-Up section	Right Door	☞ 4-3

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1] LCT Vertical Transport Sensor PC2-LCT [2] Paper Feed Sensor PC1-LCT

1.4 Solution

1.4.1 LCT Paper Take-Up section misfeed

A. Detection timing

Type	Description
LCT Paper Take-Up section misfeed detection	The leading edge of the paper does not block the Paper Feed Sensor (PC1-LCT) or the LCT Vertical Transport Sensor (PC2-LCT) even after the set period of time has elapsed after the Paper Feed Motor (M1-LCT) is energized.
	The Tray 2 Vertical Transport Sensor (PC108) is not blocked even after the lapse of a given period of time after the LCT Vertical Transport Sensor (PC2-LCT) has been blocked by a paper.
	The Paper Feed Sensor (PC1-LCT) is not unblocked even after the lapse of a given period of time after PC1-LCT has been blocked by a paper.
	The LCT Vertical Transport Sensor (PC2-LCT) is not unblocked even after the lapse of a given period of time after PC2-LCT has been blocked by a paper.
LCT detection of paper remaining	The LCT Vertical Transport Sensor (PC2-LCT) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Paper Feed Sensor (PC1-LCT) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

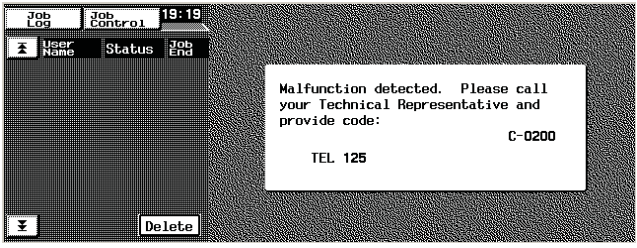
Relevant electrical parts	
Paper Feed Sensor (PC1-LCT) LCT Vertical Transport Sensor (PC2-LCT) Tray2 Vertical Transport Sensor (PC108) Paper Feed Motor (M1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC1-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-2	C-6
3	PC2-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-5	C-6
4	PC108 I/O, sensor check	PWB-Z PJ6Z-11	W-2
5	M1-LCT operation check	-	D-6
6	PWB-C1 LCT replacement	-	E-8

2. Trouble code

2.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.



2.2 Trouble code list

Code	Item	Description
C0990	LCT Elevator Motor Failure	• The Elevator Motor Pulse Sensor (PC10-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCT) is turning backward/forward (raise/lower).
C0991	LCT Lift Failure	• The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Tray Lower Position Sensor (PC13-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operating. • The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set period of time has elapsed after the paper lift-down operation began. • The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Tray Upper Limit Sensor (PC4-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began. • The Lower Limit Sensor (PC7-LCT) is blocked while the paper lift-down operating.

Code	Item	Description
C0996	LCT Lock Release Failure	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCT) is energized after the lowering operation is finished.
C0997	LCT Shift Gate Operation Failure	• The Shift Gate Home Position Sensor (PC14-LCT) cannot be set to L even after the set period of time has elapsed after the operation of the Shift Gate Motor (M3-LCT) began with the Shift Gate Home Position Sensor (PC14-LCT) set to L.
C0998	LCT Shift Failure	• The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set period of time has elapsed after the shift operation began (shift to the right). • The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set period of time has elapsed after the return operation began (shift to the left). • The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left). • The Shifter Return Position Sensor (PC11-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left).
C099C	LCT Shift Motor Failure	• The Shift Motor Pulse Sensor (PC8-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Shift Motor (M4-LCT) is turning backward/forward (raise/lower).
C099D	LCT communication error	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.

2.2.1 How to reset

- Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board to reset the following malfunctions: scanner-related malfunctions, fusing-related malfunctions, exposure lamp-related malfunctions and C3FFF.
- For any other malfunctions, open and close the Front Door or turn OFF and ON the Power Switch.

2.3 Solution

2.3.1 C0990:LCT Elevator Motor Failure

A. Detection timing

Malfunction code	Description
C0990	The Elevator Motor Pulse Sensor (PC10-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Elevator Motor (M5-LCT) is turning backward/forward (raise/lower).

B. Action

Relevant electrical parts	
Elevator Motor (M5-LCT) Elevator Motor Pulse Sensor (PC10-LCT)	Interface Board (PWB-H LCT) Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC10-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-5	F-2
4	M5-LCT operation check	PWB-C1 LCT PJ4C1 LCT-7,6	H-2
5	PWB-H LCT replacement	-	F-6
6	PWB-C1 LCT replacement	-	E-8

2.3.2 C0991: LCT Lift Failure

A. Detection timing

Malfunction code	Description
C0991	The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operation began.
	The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began.
	The Tray Lower Position Sensor (PC13-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-up operation began.
	The Tray Upper Limit Sensor (PC4-LCT) is not blocked even after the set period of time has elapsed after the paper lift-up operating.
	The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set period of time has elapsed after the paper lift-down operation began.
	The Tray Lower Position Sensor (PC13-LCT) is not blocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began.
	The Tray Upper Limit Sensor (PC4-LCT) is not unblocked even after the set pulse is detected by the Elevator Motor Pulse Sensor (PC10-LCT) after the paper lift-down operation began.
	The Lower Limit Sensor (PC7-LCT) is blocked while the paper lift-down operating.

B. Action

Relevant electrical parts	
Tray Upper Limit Sensor (PC4-LCT) Tray Lower Position Sensor (PC13-LCT) Elevator Motor Pulse Sensor (PC10-LCT) Lower Limit Sensor (PC7-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	-	-
2	PC4-LCT I/O, sensor check	PWB-C1 LCT PJ5C1 LCT-12	B-6
3	PC13-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-9	D-2
4	PC10-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-5	F-2
5	PC7-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-2	H-2
6	PWB-C1 LCT replacement	-	E-8

2.3.3 C0996: LCT Lock Release Failure

A. Detection timing

Malfunction code	Description
C0996	The drawer cannot be determined to be out of position even after the set period of time has elapsed after the Tray Lock Solenoid (SL1-LCT) is energized after the lowering operation is finished.

B. Action

Relevant electrical parts	
Tray Lock Solenoid (SL1-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the SL1-LCT connector for proper connection, and correct as necessary.	-	-
2	SL1-LCT operation check	PWB-C1 LCT PJ7C1 LCT-4	E-6
3	PWB-C1 LCT replacement	-	E-8

2.3.4 C0997: LCT Shift Gate Operation Failure

A. Detection timing

Malfunction code	Description
C0997	The Shift Gate Home Position Sensor (PC14-LCT) cannot be set to L even after the set period of time has elapsed after the operation of the Shift Gate Motor (M3-LCT) began with the Shift Gate Home Position Sensor (PC14-LCT) set to L.

B. Action

Relevant electrical parts	
Shift Gate Home Position Sensor (PC14-LCT) Shift Gate Motor (M3-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC14-LCT I/O, sensor check	PWB-C1 LCT PJ4C1 LCT-1	I-2
4	M3-LCT operation check	PWB-C1 LCT PJ4C1 LCT-3,2	I-2
5	PWB-C1 LCT replacement	-	E-8

2.3.5 C0998: LCT Shift Failure

A. Detection timing

Malfunction code	Description
C0998	The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set period of time has elapsed after the shift operation began (shift to the right).
	The Shifter Return Position Sensor (PC11-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right).
	The Shifter Home Position Sensor (PC12-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the shift operation began (shift to the right).
	The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set period of time has elapsed after the return operation began (shift to the left).
	The Shifter Home Position Sensor (PC12-LCT) is not blocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left).
	The Shifter Return Position Sensor (PC11-LCT) is not unblocked even after the set pulse is detected by the Shift Motor Pulse Sensor (PC8-LCT) after the return operation began (shift to the left).

B. Action

Relevant electrical parts	
Shift Motor Pulse Sensor (PC8-LCT) Shifter Return Position Sensor (PC11-LCT) Shifter Home Position Sensor (PC12-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	-	-
2	PC8-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-3	G-2
3	PC11-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-7	E-2
4	PC12-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-8	D-2
5	PWB-C1 LCT replacement	-	E-8

2.3.6 C099C: LCT Shift Motor Failure

A. Detection timing

Malfunction code	Description
C099C	The Shift Motor Pulse Sensor (PC8-LCT) cannot detect both edges of H/L even after the set period of time has elapsed while the Shift Motor (M4-LCT) is turning backward/forward (raise/lower).

B. Action

Relevant electrical parts	
Shift Motor (M4-LCT) Shift Motor Pulse Sensor (PC8-LCT)	Main Control Board (PWB-C1 LCT)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC8-LCT I/O, sensor check	PWB-C1 LCT PJ3C1 LCT-3	G-2
4	M4-LCT operation check	PWB-C1 LCT PJ4C1 LCT-5,4	H-2
5	PWB-C1 LCT replacement	-	E-8

2.3.7 C099D: LCT communication error

A. Detection timing

Malfunction code	Description
C099D	Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.

B. Action

Relevant electrical parts	
Main Control Board (PWB-C1 LCT)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn the main unit off, then on again.	-	-
2	PWB-C1 LCT replacement	-	E-8

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

AD-501

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

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NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
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  The revision marks for Ver. 2.0 are left as they are.

2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
2004/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Product specifications

1.1 Type

Name	Duplex Unit
Type	Switchback and Circulating Duplex Unit
Installation	Mounted on the right side door of main unit
Document Alignment	Center

1.2 Paper type

Paper Type	Plain paper	60 to 90 g/m^2 (16 to 24 lb)
Paper Size	A5R to A3 Wide, 5-1/2 × 8-1/2R to 12-1/4 × 18	

1.3 Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main unit)
	DC 5 V ± 5 % (supplied from the main unit)
Max. Power Consumption	17 W or less
Dimensions	109 mm (W) × 440 mm (D) × 344 mm (H) 4-1/4 inch (W) × 17-1/4 inch (D) × 13-1/2 inch (H)
Weight	2.9 kg (6-1/2 lb)

1.4 Operating environment

Conforms to the operating environment of the main unit.

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II Maintenance

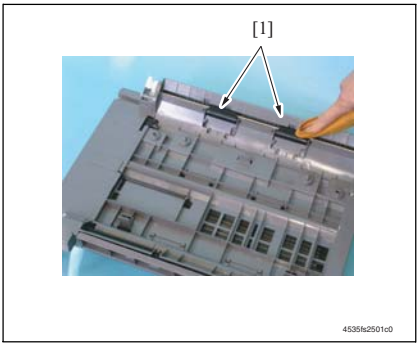
1. Periodical check

1.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of Maintenance represents the isopropyl alcohol.**

1.1.1 Transport Roller / Roll 1



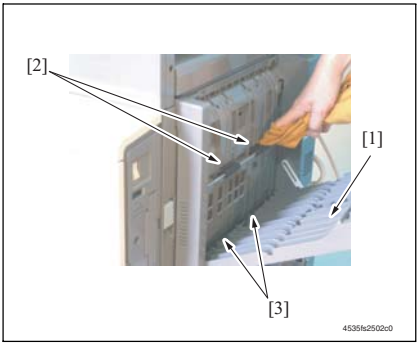
A. Cleaning procedure

1. Remove the Duplex Unit.

☞ 2-4

2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 1 [1] clean of dirt.

1.1.2 Transport Roller / Roll 2, 3

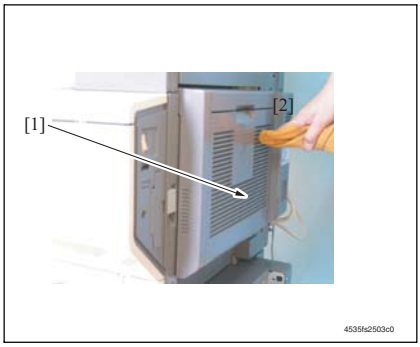


A. Cleaning procedure

1. Open the Duplex Unit Door [1].

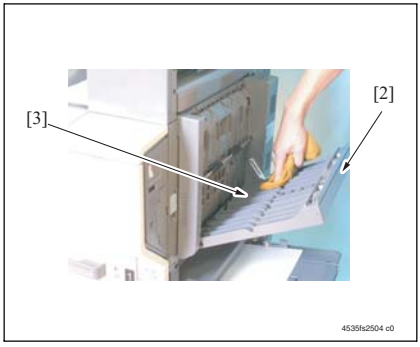
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller / Roll 2 [2], 3 [3] clean of dirt.

1.1.3 Ventilation Section



A. Cleaning procedure

1. Using a soft cloth dampened with alcohol, wipe the outside of the Ventilation Section [1] clean of dirt.



2. Open the Duplex Unit Door [2].

3. Using a soft cloth dampened with alcohol, wipe the inside of the Ventilation Section [3] clean of dirt.

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

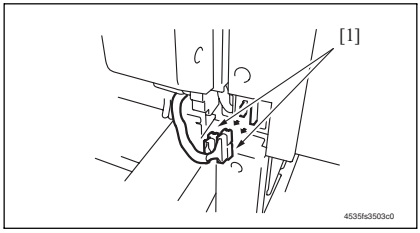
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

2.2 Disassembly/Assembly list (Other parts)

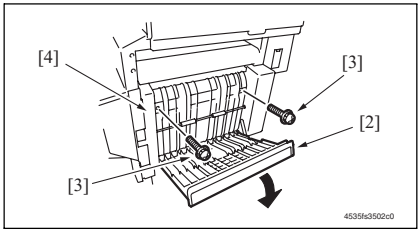
No	Section	Part name	Ref. page
1	Unit	Duplex Unit	☞ 2-4

2.3 Disassembly/Assembly procedure

2.3.1 Duplex Unit



1. Remove the wiring cover.
☞ For details of how to remove the wiring cover, see the Maintenance of the main unit service manual.
2. Unplug two connectors [1].



3. Open the Duplex Unit Door [2].
4. Remove two screws [3], and remove the Duplex Unit [4].

III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. I/O check

2.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

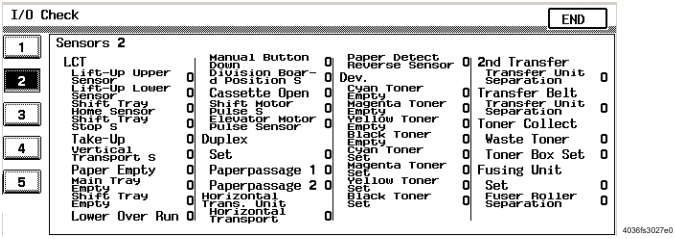
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the “State Confirm” Check key.
3. Touch the “I/O Check” key.

2.2 I/O check list

2.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



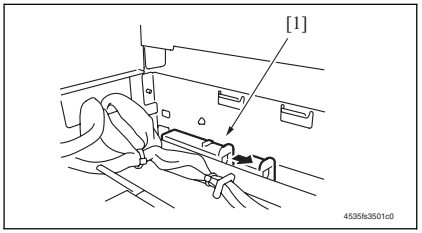
2.2.2 I/O check list

A. Sensor monitor 2

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI2-DU	Set	Duplex Unit Door Set Sensor	OPEN	CLOSE
PI1-DU	Paperpassage 1	Duplex Unit Transport Sensor 1	Paper present	Paper not present
PC1-DU	Paperpassage 2	Duplex Unit Transport Sensor 2	Paper present	Paper not present

3. Mechanical adjustment

3.1 Changing the cable tension strength (moving of the lever)



1. Remove the Exit Tray of the main unit.

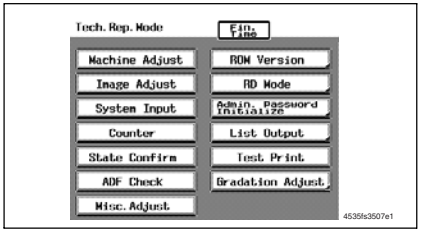
☞ For details of how to remove the Exit Tray of the main unit, see the Maintenance of the main unit service manual.

2. Move the green lever [1] in the direction of the arrow to change the mounting position.

NOTE

- **When the Duplex Unit is mounted, the Right Door of the main unit can jerk open by its own weight as it is opened, damaging the main unit. Be sure to move the green lever to change the tension strength of the cable.**

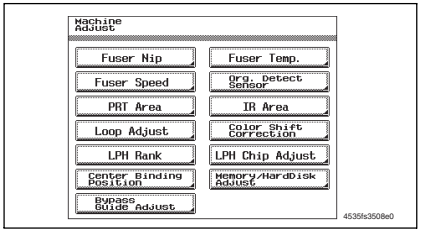
3.2 Adjusting the paper reference position



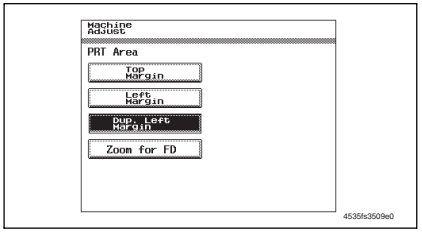
1. Display the Tech. Rep. Mode screen.

☞ For details of how to display the Tech. Rep. Mode screen, see the Adjustment/Setting of the main unit service manual.

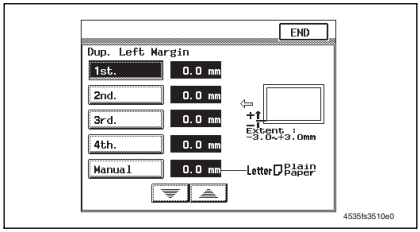
2. Touch “Machine Adjust”.



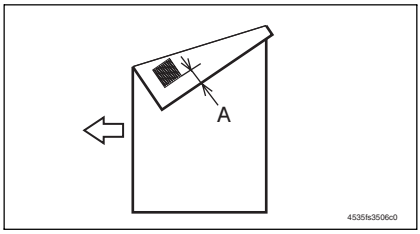
3. Touch “PRT Area”.



4. Touch “Dup. Left Margin”.



5. Touch “1st” and then press the “Start” key. A test print will then be produced.



6. Measure the width of printed reference line A.
   Specifications: 3.0 mm ± 1.0 mm
7. If the measured width A falls outside the specified range, enter the correction value.
8. Produce another test print and check for width A.

IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

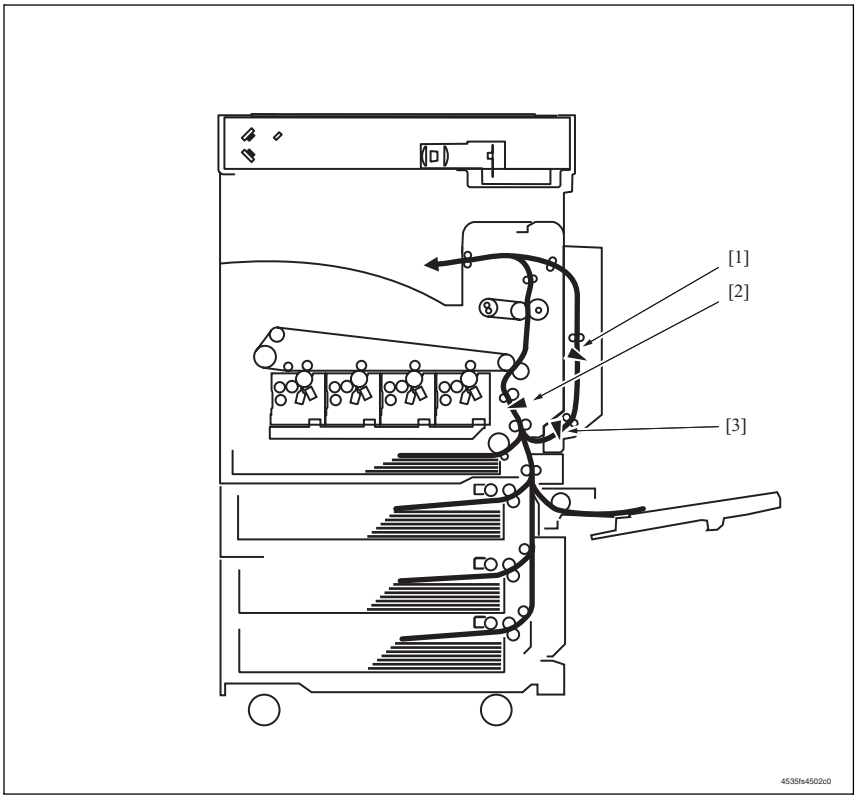
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
Duplex Unit transport section misfeed	Duplex Unit Door	☞ 4-3

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1] Duplex Unit Transport Sensor 1 PI1-DU
[2] Synchronizing Roller Sensor PC28
[3] Duplex Unit Transport Sensor 2 PC1-DU

1.4 Solution

1.4.1 Duplex Unit transport section misfeed

A. Detection timing

Type	Description
Duplex Unit transport section misfeed detection	The Synchronizing Roller Sensor(PC28) is not blocked even after the lapse of a given period of time after the Duplex Paper Take-up sequence started.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not blocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PI1-DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 1 (PI1-DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 1 (PI1-DU) is blocked by the paper.
	The Duplex Unit Transport Sensor 2 (PC1-DU) is not unblocked even after the set period of time has elapsed after the Duplex Unit Transport Sensor 2 (PC1-DU) is blocked by the paper.
Detection of paper remaining in the Duplex Unit transport section	The Duplex Unit Transport Sensor 1 (PI1-DU) or Duplex Unit Transport Sensor 2 (PC1-DU) are blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Synchronizing Roller Sensor (PC28) Duplex Unit Transport Sensor 1 (PI1-DU) Duplex Unit Transport Sensor 2 (PC1-DU) Switchback Motor (M1-DU) Duplex Unit Transport Motor (M2-DU)	Duplex Control Board (PWB-A DU) Control Board (PWB-MC)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC28 I/O, sensor check	PWB-MC PJ12MC-6	R-2
3	PI1-DU I/O, sensor check	PWB-A DU PJ1A DU-12	H-4
4	PC1-DU I/O, sensor check	PWB-A DU PJ4A DU-3	C-2
5	M1-DU operation check	-	D-8
6	M2-DU operation check	-	H-2
7	PWB-A DU replacement	-	F-5
8	PWB-MC replacement	-	-

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-501

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
2004/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Product specifications

1.1 Type

Type	Single Staple Finisher
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge
Option	Job separator (JS-601)

1.2 Functions

Modes	Non-Sort/ Sort/ Group/Sort Staple/ Group Staple

1.3 Paper type

1.3.1 Non-Sort

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper	A6R to A3 Wide 5-1/2 × 8-1/2R/ 5-1/2 × 8-1/2 to 12-1/4 × 18	60 to 256 g/m^2 16 to 68 lb	250 sheets	1st Tray	-
Thick paper			20 sheets		
OHP Film					
Translucent paper					
Envelope					
Label paper					
Letterhead					

1.3.2 Sort/Group

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper	B5R/B5 to A3 Wide 7-1/4 × 10-1/2R/ 7-1/4 × 10-1/2 to 12-1/4 ×18	60 to 209 g/m^2 16 to 55-1/2 lb	1,000 sheets (A4R, 8-1/2 × 11R or smaller); 500 sheets (B4, 8-1/2 × 14 or larger)	Elevator Tray	-
Thick paper					

1.3.3 Sort staple/Group staple

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain paper	B5R/B5 to A3 7-1/4 × 10-1/2R/ 7-1/4 × 10-1/2 to 11 × 17	60to 90 g/m^2 16 to 24 lb Cover Mode 91 to 209 g/m^2 24-1/4 to 55-1/2 lb	1,000 sheets (A4R, 8-1/2 × 11R or smaller); 500 sheets (B4, 8-1/2 × 14 or larger)	Elevator Tray	30 sheets* (60 to 80 g/m^2, 16 to 21-1/4 lb)

*: 20 sheets if originals of high ID (Color Wise 3) is used.
*: 15 sheets when using Color Copy 90 paper.
*: 20 sheets when using Hammermill Laser Print 90 paper.

1.4 Stapling

Staple Filling Mode	Dedicated Staple Cartridge Mode (3000 staples)
Staple Detection	Available (Nearly Empty: 40 remaining staples)
Stapling Position	Diagonal back side (45 °) 1 point
	Rear Parallel 1 point
Stapled Paper Size	B5R/B5 to A3 8-1/2 × 11R / 8-1/2 × 11 to 11 × 17
Manual Staple	None

1.5 Sort and staple capacity

1.5.1 Stacking with no stapling, with the same size paper (80g/m^2)

- Determined by the item whose value is reached first among number of stacked paper, stacked height or mass of stack.
- Determined by the stacked height when stacking with stapling and no stapling mixed.

A. Number of stacked paper

FD	No. of Sheets
A4R, 8-1/2 × 11R or smaller	1000 sheets
B4, 8-1/2 × 14 or larger	500 sheets

B. Stacked height

FD	Height
A4R, 8-1/2 × 11R or smaller	150 mm
B4, 8-1/2 × 14 or larger	75 mm

C. Mass of stack

FD	Mass
A4R, 8-1/2 × 11R or smaller	correspond to 1000 sheets
B4, 8-1/2 × 14 or larger	correspond to 500 sheets

1.5.2 Stacking with stapling

- (Reference: Actual value) Determined by number of Sets or number of Sheets based on number of bindings.

A. Number of stacked paper

No. of Sheets to be Stapled	No. of Sets	No. of Sheets
2 pages	100 sets	200 Sheets
3 to 5 pages	80 sets	400 Sheets
6 to 10 pages	60 sets	600 Sheets
11 to 20 pages	40 sets	800 Sheets
21 to 30 pages	33 sets	1000 Sheets

1.6 Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	63 W or less
Dimensions	538 mm (W) × 978 mm (H) × 637 mm (D) 21-1/4 inch (W) × 38-1/2 inch (H) × 25 inch (D)
Weight	38.1 kg (84 lb)

1.7 Operating environment

Conforms to the operating environment of the main unit.

2. JS-601 product specifications

2.1 Type

Name	Job separator
Installation	Fixed to Finisher
Document Alignment	Center

2.2 Functions

Modes	Non-Sort (in the fax or printer output mode)

2.3 Paper type

Paper Type	Paper Size	Weight	Tray Capacity
Plain paper	A5R to A3 5-1/2 × 8-1/2R to 11 × 17	60 to 90 g/m^2 16 to 24 lb	100 sheets: A4, 8-1/2 × 11 (80 g/m^2, 21-1/4 lb) 50 sheets: except A4, 8-1/2 × 11 (80 g/m^2, 21-1/4 lb) (Height: up to 28 mm, 1 lb)

2.4 Machine specifications

Power Requirements	DC 5 V, DC 24 V (supplied from Finisher)
Dimensions	341 mm (W) × 149 mm (H) × 527 mm (D) 13-1/2 inch (W) × 5-3/4 inch (H) × 20-3/4 inch (D)
Weight	1.75 kg (3-3/4 lb)

2.5 Operating environment

Conforms to the operating environment of the main unit.

II Maintenance

1. Other

1.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

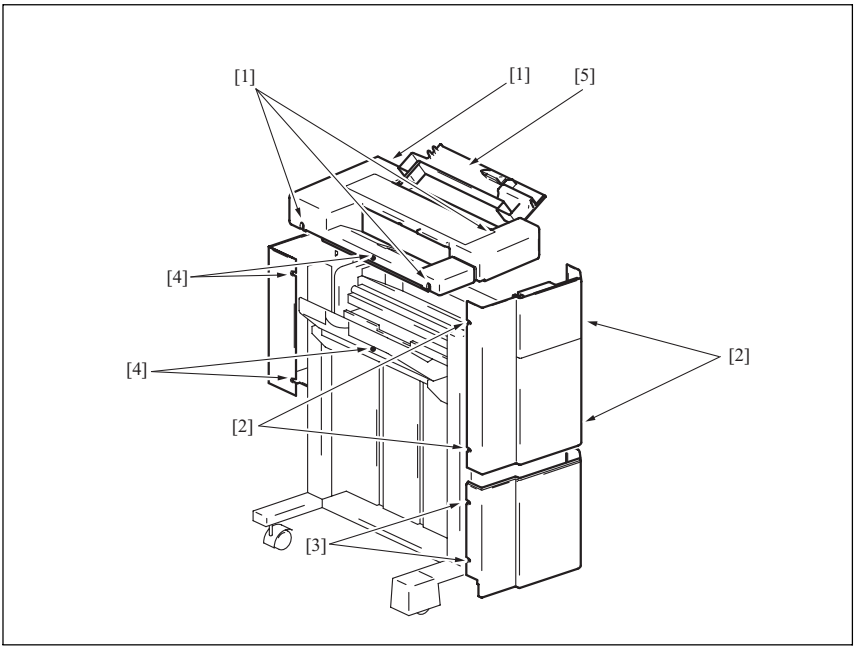
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

1.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Upper Cover	☞ 2-2
2		Upper Front Cover	☞ 2-2
3		Lower Front Cover	☞ 2-2
4		Rear Cover	☞ 2-2
5	Unit	Stapling Unit	☞ 2-3

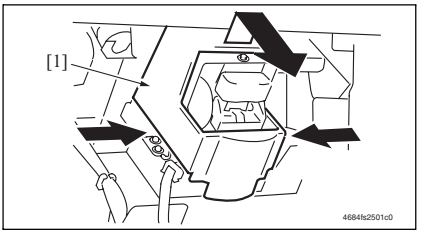
1.3 Disassembly/Assembly procedure

1.3.1 Upper Cover/Upper Front Cover/Lower Front Cover/Rear Cover

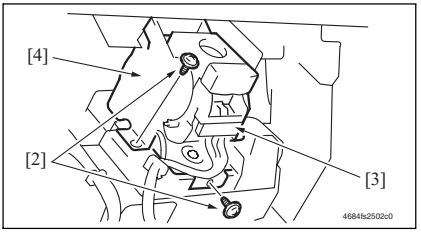


1. Open the Upper Door [5]
2. Remove four screws [1] and remove the Upper Cover.
3. Remove four screws [2] and remove the Upper Front Cover.
4. Remove two screws [3] and remove the Lower Front Cover.
5. Remove four screws [4] and remove the Rear Cover.

1.3.2 Stapling Unit



1. Holding both sides of the cover [1], lift the cover up and take it off.



2. Remove two screws [2], unplug the connector [3], and remove the Stapling Unit [4] from the moving cradle.

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III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. I/O check

2.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

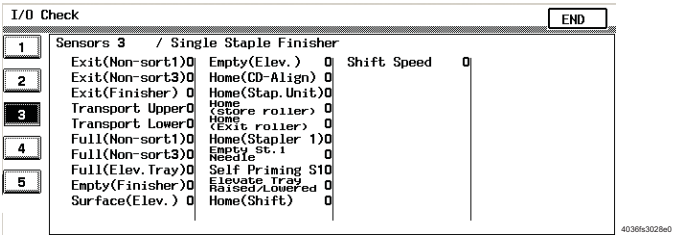
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the "State Confirm" Check key.
3. Touch the "I/O Check" key.

2.2 I/O check list

2.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



2.2.2 I/O check list

A. Sensor monitor 3

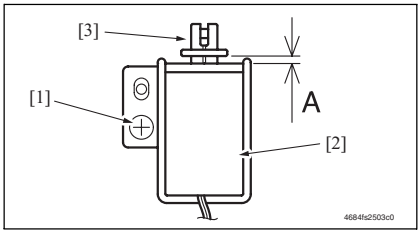
Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC1-FN	Exit (Non-sort1)	1st Tray Exit Sensor	Paper present	Paper not present
PC19-FN	Exit (Non-sort3)	Job Tray Exit Sensor	Paper present	Paper not present
PC3-FN	Exit (Finisher)	Storage Sensor	Paper present	Paper not present
PC4-FN	Transport Upper	Upper Entrance Sensor	Paper present	Paper not present
PC2-FN	Transport Lower	Lower Entrance Sensor	Paper present	Paper not present
PC6-FN	Full (Non-sort1)	1st Tray Full Sensor	Blocked	Unblocked
PC20-FN	Full (Non-sort3)	job Tray Full Sensor	Paper present	Paper not present
PC7-FN	Full (Elev. Tray)	Elevator Tray Full Sensor	Blocked	Unblocked
PC5-FN	Empty (Finisher)	Finisher Tray Paper Sensor	Paper present	Paper not present
PWB-D FN	Surface (Elev.)	Elevator Tray Upper Limit Sensor PQ	Paper present	Paper not present
PC8-FN	Empty (Elev.)	Elevator Tray Paper Sensor	Blocked	Unblocked
PC9-FN	Home (CD-Align)	CD Aligning Home Position Sensor	Blocked	Unblocked
PC14-FN	Home (Stap. Unit)	Staple Home Position Sensor	Blocked	Unblocked
PC12-FN	Home (store roller)	Storage Roller Home Position Sensor	Blocked	Unblocked

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PC13-FN	Home (Exit roller)	Exit Roller Home Position Sensor	Blocked	Unblocked
	Home (Stapler 1)	Stapler Home Sensor 1	Unblocked	Blocked
	Empty St. 1 Needle	Staple Empty Detecting Sensor 1	Unblocked	Blocked
	Self Priming S1	Self-Priming Sensor 1	Unblocked	Blocked
S2-FN S3-FN	Elevate Tray Raised/ Lowered	Elevator Tray Upper Limit Switch Elevator Tray Lower Limit Switch	ON	OFF
PC10-FN	Home (Shift)	Shift Home Position Sensor	Blocked	Unblocked
PC11-FN	Shift Speed	Shift Motor Pulse Sensor	Unblocked	Blocked

3. Mechanical adjustment

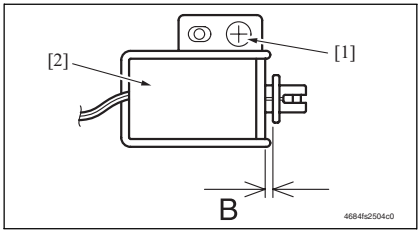
3.1 Adjustment of the solenoids

3.1.1 Adjustment of the Upper / Lower Entrance Switching Solenoid (SL1-FN)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] up and down and lower the lever [3] downward. At this time, find a position at which the clearance at portion A becomes 0.5 mm or less. Then, tighten the screw [1].

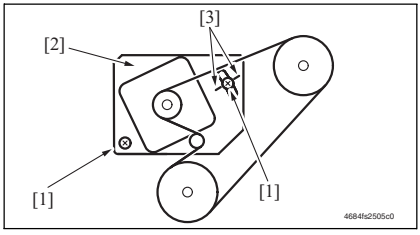
3.1.2 Adjustment of the 1st Tray Entrance Selecting Solenoid (SL2-FN)



1. Loosen the screw [1] that secures the solenoid in position.
2. Move the solenoid [2] to the right or left and, when dimension B measures 3.6 mm, tighten the screw [1].

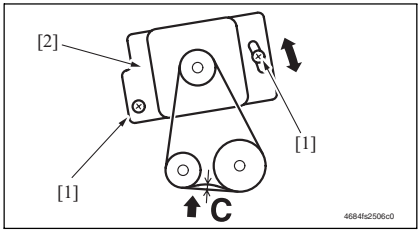
3.2 Timing belt tension adjustment

3.2.1 Adjustment of the Upper Entrance Motor (M4-FN) Timing Belt



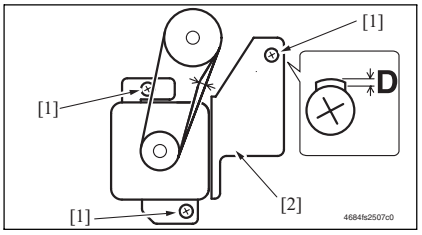
1. Loosen two screws [1].
2. Move the mounting bracket [2] and tighten the screw [1] so that the center of the screw [1] on the upper right side is located at the marked position [3] of the mounting bracket [2].

3.2.2 Adjustment of the Lower Entrance Motor (M2-FN) Timing Belt



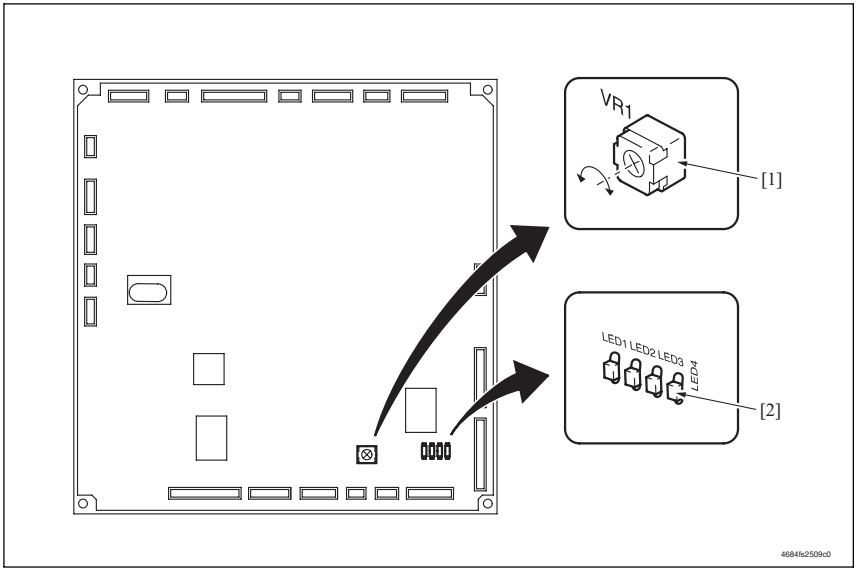
1. Loosen two screws [1].
2. Move the mounting bracket [2] and, when the belt deflects 2 mm at C, tighten two screws [1].

3.2.3 Adjustment of the Exit Motor (M3-FN) Timing Belt



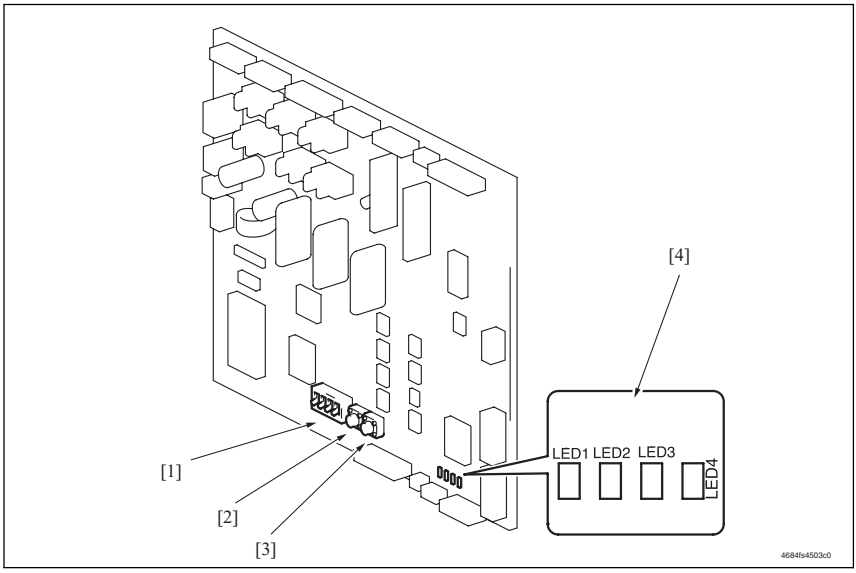
1. Loosen three screws [1].
2. Tighten three screws [1] so that the distance D between the upper end face of the head of screws [1] and the upper end face of the slot in the mounting bracket [2] measures about 0.5 mm.

3.3 Adjustment of the Elevator Tray Upper Limit Sensor



1. Set up the sensor test mode.
2. Turn VR1 on PWB-A FN fully counterclockwise.
3. Using a sheet of paper, block the Elevator Tray Upper Limit Sensor LED (PWB-C FN).
4. Check that LED4 on PWB-A FN turns OFF. If it stays ON, slowly turn VR1 clockwise and stop turning it as soon as the LED turns OFF.

4. Board switch



	Symbol	Description
[1]	S1	Used to run the Test Mode operation.
[2]	S2	Used to run the Test Mode operation.
[3]	S3	DIP switch used to set the Test Mode operation.
[4]	LED1 to 4	Turn ON or OFF, or blink to indicate a specific condition during Test Mode operations.

5. Test mode

5.1 Test mode setting procedure

<Setting Procedure>

1. Turn OFF the Power Switch of the main unit.
2. Flip keys of the DIP switch into the ON or OFF position as necessary. (See Table below.)
3. Turn ON the Power Switch of the main unit.
4. This sets the Finisher into the corresponding Test Mode operation.

<Resetting Procedure>

- Flip all keys of the DIP switch to their respective initial positions and turn OFF, then ON, the Power Switch of the main unit.

5.2 Test mode operations

Test mode operation	DIP Switch (S3)				LED			
	1	2	3	4	1	2	3	4
1st Tray exit	ON				●	❍	❍	❍
Elevator Tray exit		ON			❍	●	❍	❍
Finisher Tray exit	ON	ON			●	●	❍	❍
Shifting operation	ON		ON		●	❍	●	❍
Aligning Plate operation		ON	ON		❍	●	●	❍
Stapling Unit CD movement	ON	ON	ON		●	●	●	❍
Exit Roller/Rolls spacing				ON	❍	❍	❍	●
Storage Roller/Rolls spacing	ON			ON	●	❍	❍	●
Elevator Tray operation		ON		ON	❍	●	❍	●
Sensor test	ON		ON	ON	Indicates sensor state			

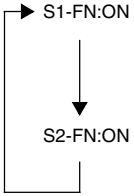
●:Blinking ❍:OFF

NOTE

- **Whenever the Control Board (PWB-A FN) is to be replaced, take note of the initial positions of all keys of the DIP switch. After the replacement procedure has been completed, be sure to flip all keys of the DIP switch on the new Control Board (PWB-A FN) to their respective initial positions.**

5.3 Operation in each test mode operation

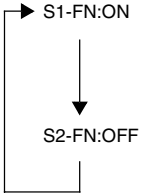
5.3.1 1st Tray Exit



Motors and solenoids: Energized
Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)

Motors and solenoids: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Upper/ Lower Entrance Switching Solenoid (SL1-FN), 1st Tray Entrance Switching Solenoid (SL2-FN)

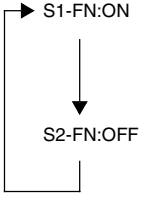
5.3.2 Elevator Tray Exit



Motors: Energized
(Entrance Motor (M1-FN), Lower Entrance Motor (M2-FN), Exit Motor(M3-FN)

Motors: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN)

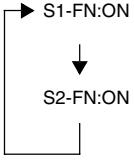
5.3.3 Finisher Tray Exit



Motors and solenoids: Energized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)

Motors and solenoids: Deenergized
(Entrance Motor (M1-FN), Upper Entrance Motor (M4-FN), Lower Entrance Motor (M2-FN), Exit Motor (M3-FN), Upper/Lower Entrance Switching Solenoid (SL1-FN)

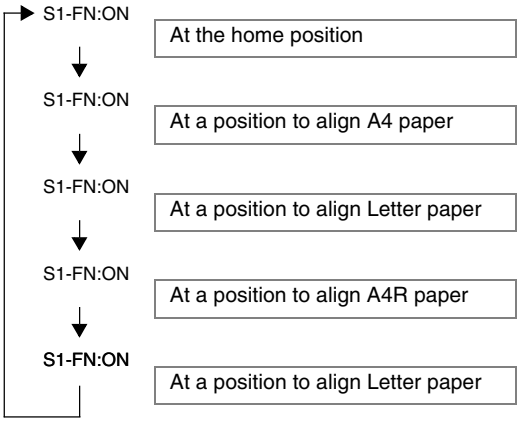
5.3.4 Shifting Operation



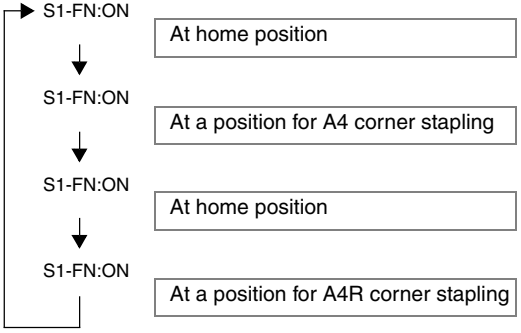
The Elevator Tray shifts to the front.

The Elevator Tray shifts to the rear.

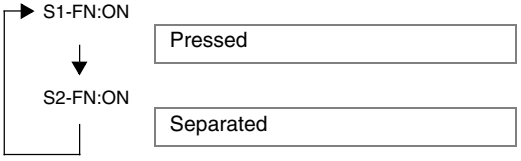
5.3.5 Aligning Plate Operation



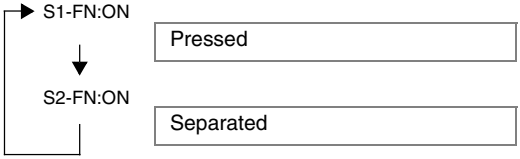
5.3.6 Stapling Unit CD Movement



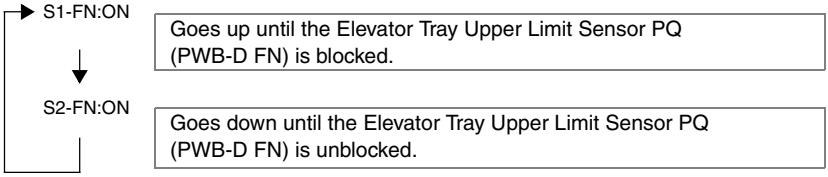
5.3.7 Exit Roller/Rolls Spacing



5.3.8 Storage Roller/Rolls Spacing



5.3.9 Elevator Tray Operation


S1-FN:ON
Goes up until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is blocked.
S2-FN:ON
Goes down until the Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is unblocked.

5.3.10 Sensor Test

Sensor	State	LED			
		1	2	3	4
Elevator Tray Upper Limit Sensor PQ (PWB-D FN)	Unblocked	❍	❍	❍	●
Storage Sensor (PC3-FN)	Blocked	❍	❍	●	❍
Lower Entrance Sensor(PC2-FN)	Blocked	❍	●	❍	❍
Upper Entrance Sensor(PC4-FN)	Blocked	●	❍	❍	❍

●:ON ❍:OFF

IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

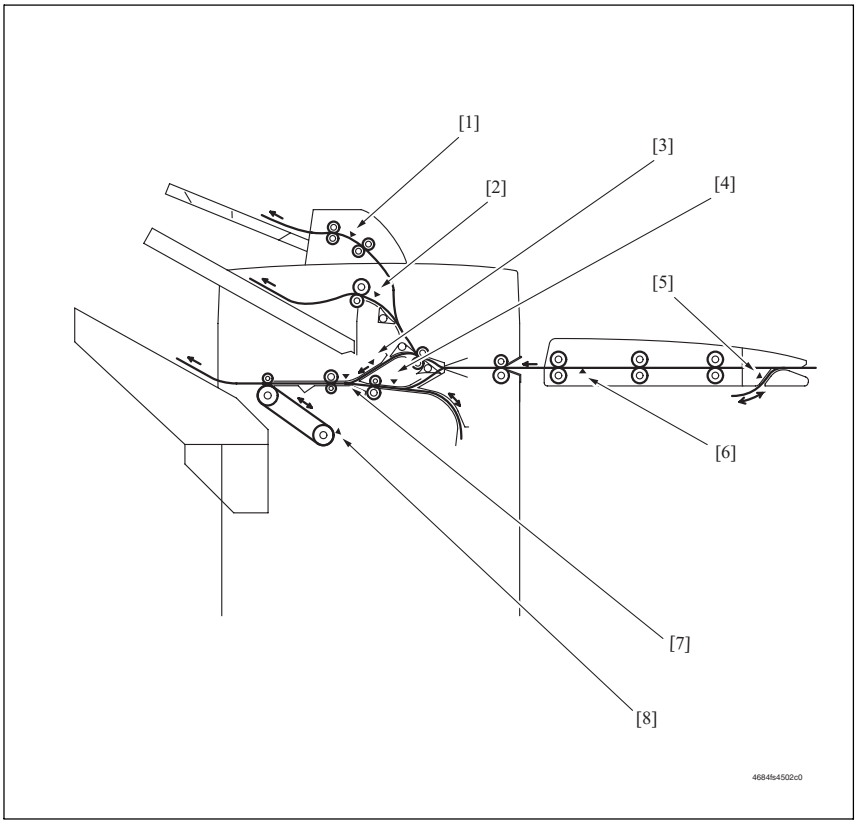
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
Horizontal Transport section	Horizontal Transport section Cover	☞ 4-6
Transport section	Front Door	☞ 4-3
Tray1 Exit section	Front Door	☞ 4-4
Elevator Tray Exit section	Front Door	☞ 4-5
Paper Stack Exit section	Front Door	☞ 4-5
Stapler section	Front Door	☞ 4-6
Job Tray Exit section (JS-601)	Job Tray Upper Cover	☞ 4-4

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1]	Job Tray Exit Sensor	PC19-FN	[6]	Paper Sensor	PC1-HO
[2]	1st Tray Exit Sensor	PC1-FN	[7]	Storage Sensor	PC3-FN
[3]	Upper Entrance Sensor	PC4-FN	[8]	Finisher Tray Paper Sensor	PC5-FN
[4]	Lower Entrance Sensor	PC2-FN			
[5]	Turnover Empty Sensor	PC6-HO			

1.4 Solution

1.4.1 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Job tray Exit Sensor (PC19-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Upper Entrance Sensor (PC4-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.
	The Lower Entrance Sensor (PC2-FN) is not blocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO) of the Horizontal Transport Unit.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN) 1st Tray Exit Sensor (PC1-FN) Paper Sensor (PC1-HO) Upper Entrance Sensor (PC4-FN) Lower Entrance Sensor (PC2-FN) Storage Sensor (PC3-FN) Entrance Motor (M1-FN) Upper Entrance Motor (M4-FN) Lower Entrance Motor (M2-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A FN-6	B-9
3	PC1-FN I/O, sensor check	PWB-A FN PJ19A FN-6	G-9
4	PC1-HO I/O, sensor check	PWB-A FN PJ15A FN-4	D-9
5	PC4-FN I/O, sensor check	PWB-A FN PJ20A FN-9	H-7
6	PC2-FN I/O, sensor check	PWB-A FN PJ19A FN-8	H-9
7	PC3-FN I/O, sensor check	PWB-A FN PJ20A FN-3	H-7
8	M1-FN operation check	-	B-4
9	M4-FN operation check	-	B-4
10	M2-FN operation check	-	A-4
11	PWB-A FN replacement	-	E-5

1.4.2 Tray1 Exit section misfeed

A. Detection timing

Type	Description
Tray1 Exit section misfeed detection	The 1st Tray Exit Sensor (PC1-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
1st Tray Exit Sensor (PC1-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC1-FN I/O, sensor check	PWB-A FN PJ19A FN-6	G-9
3	PWB-A FN replacement	-	E-5

1.4.3 Job Tray Exit section misfeed (JS-601)

A. Detection timing

Type	Description
Job Tray Exit section misfeed detection (JS-601)	The Job Tray Exit Sensor (PC19-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Job Tray Exit Sensor (PC19-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC19-FN I/O, sensor check	PWB-A FN PJ14A FN-6	B-9
3	PWB-A FN replacement	-	E-5

1.4.4 Elevator Tray Exit section misfeed

A. Detection timing

Type	Description
Elevator Tray Exit section misfeed detection	The Storage Sensor (PC3-FN) is not unblocked even after the lapse of a given period of time after it has been blocked.

B. Action

Relevant electrical parts	
Storage Sensor (PC3-FN) Exit Motor (M3-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC3-FN I/O, sensor check	PWB-A FN PJ20A FN-3	H-7
3	M3-FN operation check	-	A-3
4	PWB-A FN replacement	-	E-5

1.4.5 Paper Stack Exit section misfeed

A. Detection timing

Type	Description
Paper Stack Exit section misfeed detection	The Finisher Tray Paper Sensor (PC5-FN) remains activated when a copy stack, which has been stapled together, is fed out.

B. Action

Relevant electrical parts	
Exit Motor (M3-FN) Finisher Tray Paper Sensor (PC5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC5-FN I/O, sensor check	PWB-A FN PJ25A FN-2	I-2
3	M3-FN operation check	-	A-3
4	PWB-A FN replacement	-	E-5

1.4.6 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Stapler does not return to its home position within a given period of time after the forward drive of the Stapler has been started.

B. Action

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC14-FN I/O, sensor check	PWB-A FN PJ22A FN-3	I-7
3	M6-FN operation check	-	A-4
4	Stapling Unit replacement	-	-
5	PWB-A FN replacement	-	E-5

1.4.7 Horizontal Transport section misfeed

A. Detection timing

Type	Description
Horizontal Transport section misfeed detection	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not blocked even after the lapse of a given period of time after the leading edge of the paper has unblocked the Paper Exit Sensor of the main unit.
	The Paper Sensor (PC1-HO) of the Horizontal Transport Unit is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Paper Sensor (PC1-HO).

B. Action

Relevant electrical parts	
Paper Sensor (PC1-HO) Turnover Empty Sensor (PC6-HO)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	Horizontal Transport section gear check	-	-
3	PC1-HO I/O, sensor check	PWB-A FN PJ15A FN-4	D-9
4	PC6-HO I/O, sensor check	PWB-A FN PJ15A FN-12	C-9
5	PWB-A FN replacement	-	E-5

2. Trouble code

2.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.

2.2 Trouble code list

Code	Item	Description
C0B20	Stapling Unit Moving Motor (M6-FN) drive malfunction	• The Staple Home Position Sensor (PC14-FN) does not go HIGH even after the lapse of a given period of time after M6-FN has been energized (to return the Stapling Unit to its home position).
C0B30	CD Aligning Motor (M5-FN) drive malfunction	• The CD Aligning Home Position Sensor (PC9-FN) does not go LOW even after the lapse of a given period of time after M5-FN has been energized (to return the Aligning Plate to its home position).
C0B48	Exit Roller/Rolls Spacing Motor (M13-FN) drive malfunction	• The Exit Roller Home Position Sensor (PC13-FN) does not go HIGH even after the lapse of a given period of time after M13-FN has been energized (to start spacing/pressure sequence).
C0B4A	Storage Roller/Rolls Spacing Motor (M12-FN) drive malfunction	• The Storage Roller Home Position Sensor (PC12-FN) does not go HIGH even after the lapse of a given period of time after M12-FN has been energized (to start spacing/pressure sequence).
C0B50	Stapling Motor drive malfunction	• A fault is found in the Staple Motor.
C0B80	Shift Motor (M8-FN) drive malfunctions	• The Shift Home Position Sensor (PC10-FN) does not go HIGH even after the lapse of a given period of time after M8-FN has been energized (to start returning the Elevator Tray to its home position). • The Shift Home Position Sensor (PC10-FN) does not go LOW even after the lapse of a given period of time after M8-FN has been energized (to start moving the Elevator Tray for job offset).

Code	Item	Description
C0BA0	Elevator Motor (M7-FN) drive malfunctions	• The Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is not activated even after the lapse of a given period of time after M7-FN has been energized (to start raising the Elevator Tray). • The Elevator Tray Upper Limit Switch (S2-FN) or Elevator Tray Lower Limit Switch (S3-FN) is actuated after M7-FN has been energized.

2.2.1 How to reset

- Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board to reset the following malfunctions: scanner-related malfunctions, fusing-related malfunctions, exposure lamp-related malfunctions and C3FFF.
- For any other malfunctions, open and close the Front Door or turn OFF and ON the Power Switch.

2.3 Solution

2.3.1 C0B20:Stapling Unit Moving Motor (M6-FN) drive malfunction

A. Detection timing

Malfunction code	Description
C0B20	The Staple Home Position Sensor (PC14-FN) does not go HIGH even after the lapse of a given period of time after M6-FN has been energized (to return the Stapling Unit to its home position).

B. Action

Relevant electrical parts	
Staple Home Position Sensor (PC14-FN) Stapling Unit Moving Motor (M6-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC14-FN I/O, sensor check	PWB-A FN PJ22A FN-3	I-7
4	Turn OFF the Power Switch, move the Stapling Unit out of its home position, and turn ON the Power Switch. Operation check of the Stapling Unit Moving Motor (M6-FN) at this time.	-	A-4
5	PWB-A FN replacement	-	E-5

2.3.2 C0B30:CD Aligning Motor (M5-FN) drive malfunction

A. Detection timing

Malfunction code	Description
C0B30	The CD Aligning Home Position Sensor (PC9-FN) does not go LOW even after the lapse of a given period of time after M5-FN has been energized (to return the Aligning Plate to its home position).

B. Action

Relevant electrical parts	
CD Aligning Home Position Sensor (PC9-FN) CD Aligning Motor (M5-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC9-FN I/O, sensor check	PWB-A FN PJ25A FN-6	I-2
4	Turn OFF the Power Switch, move the Aligning Plate out of its home position, and turn ON the Power Switch. Operation check of the CD aligning Motor (M5-FN) at this time.	-	A-6
5	PWB-A FN replacement	-	E-5

2.3.3 C0B48:Exit Roller/Rolls Spacing Motor (M13-FN) drive malfunction

A. Detection timing

Malfunction code	Description
C0B48	The Exit Roller Home Position Sensor (PC13-FN) does not go HIGH even after the lapse of a given period of time after M13-FN has been energized (to start spacing/ pressure sequence).

B. Action

Relevant electrical parts	
Exit Roller Home Position Sensor (PC13-FN) Exit Roller/Rolls Spacing Motor (M13-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC13-FN I/O, sensor check	PWB-A FN PJ19A FN-15	H-9
4	M13-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN PJ16A FN-1,2	E-9
5	PWB-A FN replacement	-	E-5

2.3.4 C0B4A:Storage Roller/Rolls Spacing Motor (M12-FN) drive malfunction

A. Detection timing

Malfunction code	Description
C0B4A	The Storage Roller Home Position Sensor (PC12-FN) does not go HIGH even after the lapse of a given period of time after M12-FN has been energized (to start spacing/pressure sequence).

B. Action

Relevant electrical parts	
Storage Roller Home Position Sensor (PC12-FN) Storage Roller/Rolls Spacing Motor (M12-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC12-FN I/O, sensor check	PWB-A FN PJ20A FN-6	H-7
4	M12-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN PJ8A FN-5,6	A-3
5	PWB-A FN replacement	-	E-5

2.3.5 C0B50:Stapling Motor drive malfunction

A. Detection timing

Malfunction code	Description
C0B50	A fault is found in the Staple Motor.

B. Action

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the Stapling motor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of Stapling motor for proper drive coupling, and correct as necessary.	-	-

2.3.6 C0B80:Shift Motor (M8-FN) drive malfunctions

A. Detection timing

Malfunction code	Description
C0B80	The Shift Home Position Sensor (PC10-FN) does not go HIGH even after the lapse of a given period of time after M8-FN has been energized (to start returning the Elevator Tray to its home position).
	The Shift Home Position Sensor (PC10-FN) does not go LOW even after the lapse of a given period of time after M8-FN has been energized (to start moving the Elevator Tray for job offset).

B. Action

Relevant electrical parts	
Shift Home Position Sensor (PC10-FN) Shift Motor Pulse Sensor (PC11-FN) Shift Motor (M8-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PC10-FN I/O, sensor check	PWB-A FN PJ25A FN-12	H-2
4	PC11-FN I/O, sensor check	PWB-A FN PJ25A FN-14	H-2
5	M8-FN operation check	PWB-A FN PJ5A FN-3,4	D-2
6	PWB-A FN replacement	-	E-5

2.3.7 C0BA0:Elevator Motor (M7-FN) drive malfunctions

A. Detection timing

Malfunction code	Description
C0BA0	The Elevator Tray Upper Limit Sensor PQ (PWB-D FN) is not activated even after the lapse of a given period of time after M7-FN has been energized (to start raising the Elevator Tray).
	The Elevator Tray Upper Limit Switch (S2-FN) or Elevator Tray Lower Limit Switch (S3-FN) is actuated after M7-FN has been energized.

B. Action

Relevant electrical parts	
Elevator Tray Upper Limit Sensor PQ (PWB-D FN) Elevator Tray Upper Limit Switch (S2-FN) Elevator Tray Lower Limit Switch (S3-FN) Elevator Motor (M7-FN)	Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PWB-D FN I/O, sensor check	PWB-A FN PJ21A FN-2,4	I-7
4	S2-FN operation check	PWB-A FN PJ18A FN-4	F-9
5	S3-FN operation check	PWB-A FN PJ16A FN-4	E-9
6	M7-FN operation check	PWB-A FN PJ5A FN-1,2	D-2
7	PWB-A FN replacement	-	E-5

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FS-601

2004.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2004/09	2.0	△1	Adding the descriptions and correcting errors in writing
2004/03	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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I General

1. Product specifications

1.1 Type

Type	Multi Staple Finisher with Saddle (Booklet)
Installation	Freestanding
Document Alignment	Center
Supplies	Staple Cartridge

1.2 Functions

No. of Holes (optional)	Metric: 4holes, Inch: 2holes / 3holes	
Modes	Normal	Non-Sort
		Sort
		Sort Staple
		Saddle Staple
	Hole Punch (optional)	Non-Sort Hole Punch
		Sort Hole Punch
		Sort Staple Hole Punch

1.3 Paper type

1.3.1 Non-Sort

<table>
<tr><th>Paper Type</th><th colspan="2">Paper Size</th><th>Weight</th><th colspan="4">Tray Capacity</th><th>Exit Tray</th><th>No. of Sheets to be Stapled</th></tr>
<tr><td rowspan="3">Plain Paper</td><td colspan="2" rowspan="3">A6R to A3 Wide
5-1/2 × 8-1/2R/
5-1/2 × 8-1/2
to
12-1/4 × 18</td><td rowspan="6">60 to 256 g/m^2
16 to 68 lb</td><td colspan="4">60 to 90 g/m^2
16 to 24 lb</td><td rowspan="6">Elevator Tray</td><td rowspan="6">-</td></tr>
<tr><td rowspan="2">No. of Sheets
Height</td><td>A4R / 8-1/2×11R or smaller</td><td>B4/ 8-1/2×14 or larger</td></tr>
<tr><td>1000
150 mm</td><td>500
75 mm</td></tr>
<tr><td rowspan="3">Envelop
OHP Film
Label Paper
Thick Paper</td><td>Max.</td><td>Min.</td><td colspan="4">Controlled by whichever reached earlier</td></tr>
<tr><td>CD311.15 mm</td><td>86 mm</td><td colspan="4" rowspan="2">20 sheets</td></tr>
<tr><td>FD457.2 mm</td><td>139.7 mm</td></tr>
</table>

1.3.2 Sort

Paper Type	Paper Size	Weight	Tray Capacity			Exit Tray	No. of Sheets to be Stapled
Plain Paper	B5R/B5 to A3 8-1/2 × 11R/ 8-1/2 × 11 to 11 × 17	60 to 90 g/m^2 16 to 24 lb		A4R / 8-1/2×11R or smaller	B4/ 8-1/2×14 or larger	Elevator Tray	-
			No. of Sheets	1000	500		
			Height	150 mm	75 mm		
			Controlled by whichever reached earlier				

1.3.3 Sort staple

Paper Type	Paper Size	Weight	Tray Capacity			Exit Tray	No. of Sheets to be Stapled
Plain Paper Cardboard	B5R/B5 to A3 8-1/2 × 11R/ 8-1/2 × 11 to 11×17	Normal Mode 60 to 90 g/m^2 16 to 24 lb Cover Mode 60 to 209 g/m^2 16 to 55-1/2 lb		A4R / 8-1/2×11R or smaller	B4/ 8-1/2×14 or larger		Normal Mode *1
			No. of Sheets	1000	500	Elevator Tray	
			Height	150 mm	75 mm		A4R/8-1/2× 11R or smaller: 2 to 50
			No. of Sets	30	30		B4/8-1/2×14 or larger: 2 to 25
			Controlled by whichever reached earlier				

* The number of Sheets to be Stapled is limited for high-density images. (Color Wise: 3 to 20 sheets)

1.3.4 Saddle staple

Paper Type	Paper Size	Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain Paper	A4R, B4, A3 8-1/2 × 11R/ 8-1/2 × 11, 8-1/2 × 14 11 × 17	60 to 90 g/m^2 16 to 24 lb	10 sets (No. of Sheets to be Stapled: 6 to 10 sheets) 20 sets (No. of Sheets to be Stapled: 2 to 5 sheets)	Booklet Tray	2 to 10 sheets (Max. 40 pages)

1.3.5 Hole punch (optional)

Paper Type	Paper Size		Weight	Tray Capacity	Exit Tray	No. of Sheets to be Stapled
Plain Paper Thick Paper	4 holes	A4, A3	60 to 209 g/m^2 16 to 55-1/2 lb	-	Elevator Tray	-
	2 holes	8-1/2 × 11R/ 8-1/2 × 11, 8-1/2 × 14, 11 × 17				
	3 holes	8-1/2 × 11, 11 × 17				

1.4 Stapling

Staple Filling Mode	Dedicated Staple Cartridge Mode (5000 staples)
Staple Detection	Available (Nearly Empty: 40 remaining staples)
Stapling Position	Rear: Parallel 1 point
	Front: Parallel 1 point
	Center: Parallel 2 points
Stapled Paper Size	B5R/B5 to A3, 8-1/2 × 11R / 8-1/2 × 11 to 11 × 17
Manual Staple	None
Folding Mode	Roller Pressure Folding
Folding Position	Center of Paper

1.5 No. of sheets to be stapled (sort staple)

A. A4R, 8-1/2 × 11R or smaller

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	40	40
3 to 5	80	40	40
6 to 10	60	40	40
11 to 20	30	30	30
21 to 30	30	30	30
31 to 50	30 sets or 1000 sheets		

B. B4, 8-1/2 × 14 or larger

No. of Sheets to be Stapled	No. of Sets		
	Rear: Parallel	Center: Parallel	Front: Parallel
2	100	50	50
3 to 5	80	40	40
6 to 10	40	40	40
11 to 20	30 sets or 1000 sheets		
21 to 25			

1.6 Machine specifications

Power Requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated by Finisher)
Max. Power Consumption	65 W or less
Dimensions	601 mm (W) × 933 mm (H) × 603 mm (D) 23-3/4 inch (W) × 36-3/4 inch (H) × 23-3/4 inch (D)
Weight	41.6 kg (91-3/4 lb)

1.7 Operating environment

Conforms to the operating environment of the main unit.

II Maintenance

1. Other

1.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE
- **Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.**

B. Red Painted Screws

NOTES
- **When the screws are removed, the red paint is coated on the points where readjustment is required.**
- **Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment.Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.**

C. Variable Resistors on Board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

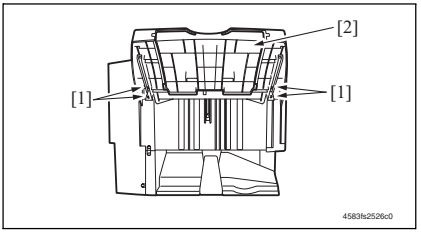
NOTES
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **When it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

1.2 Disassembly/Assembly list (Other parts)

No	Section	Part name	Ref. page
1	Exterior Parts	Exit Tray	☞ 2-3
2		Front Cover	☞ 2-3
3		Rear Cover	☞ 2-3
4		Upper Door	☞ 2-4
5		Finisher Tray Upper Cover	☞ 2-4
6		Upper Cover	☞ 2-5
7	Unit	Side Guide	☞ 2-5
8		Middle Transport Unit	☞ 2-6
9		Stapler	☞ 2-6
10		Saddle Section	☞ 2-9
11		Finisher Tray	☞ 2-11
12		Paddle Section	☞ 2-12
13		Exit Roller (Upper)	☞ 2-13
14		Paddle	☞ 2-13
15		Exit Roller (Lower) and Paper Exit Belt	☞ 2-14
16		Stapler/Folding Drive Unit	☞ 2-16
17		Transport Roller	☞ 2-17
18		Middle Transport Roller	☞ 2-18
19		Punch Unit	☞ 2-19
20	Electrical Parts	Finisher Control Board	☞ 2-20
21		Punch Control Board	☞ 2-20
22		Transport Motor Unit	☞ 2-21
23		Middle Transport Motor	☞ 2-21
24		Punch Motor	☞ 2-21
25		Side Registration Motor	☞ 2-21

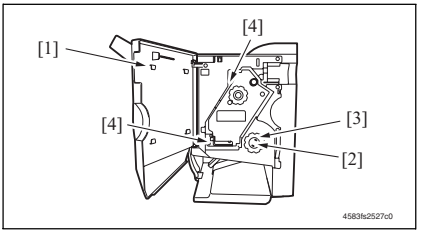
1.3 Disassembly/Assembly procedure

1.3.1 Exit Tray

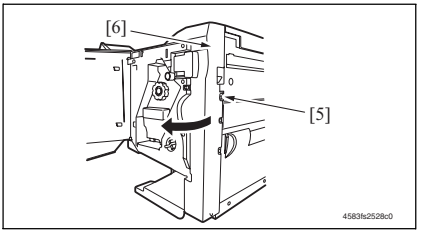


1. Remove four screws [1], and remove the Exit Tray [2].

1.3.2 Front Cover

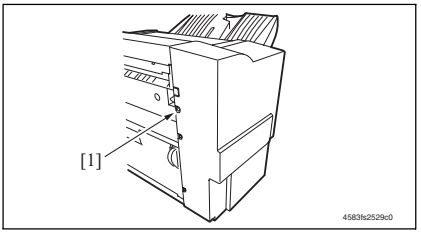


1. Remove the Middle Transport Unit.
☞ 2-6
2. Open the Front Door [1].
3. While pinching the claws [2], remove the Folding Jam Release Dial [3].
4. Remove two screws [4].

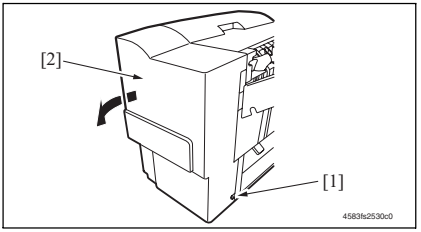


5. Remove the screw [5], and remove the Front Cover [6].

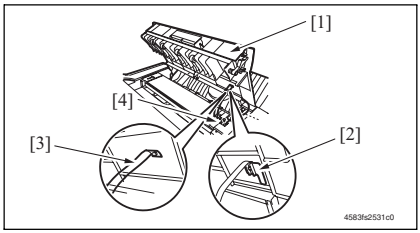
1.3.3 Rear Cover



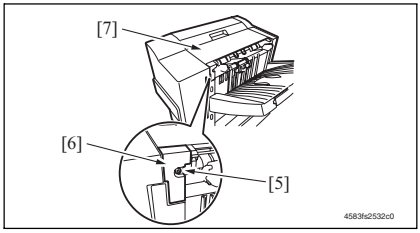
1. Remove the Middle Transport Unit.
☞ 2-6
2. Remove two screws [1], and remove the Rear Cover [2].



1.3.4 Upper Door

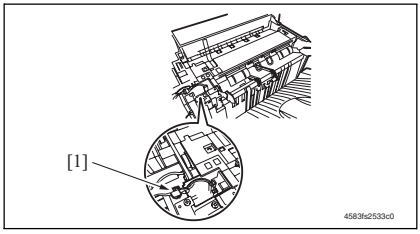


1. Open the Upper Door [1], and remove the Door Band Holder [2] by turning it clockwise.
2. Remove the Door Band [3].
3. Remove the screw [4], and remove the grounding wire.

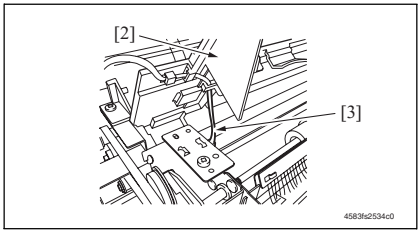


4. Remove the screw [5], remove the Finisher Tray Rear Cover [6], and remove the Upper Door [7].

1.3.5 Finisher Tray Upper Cover

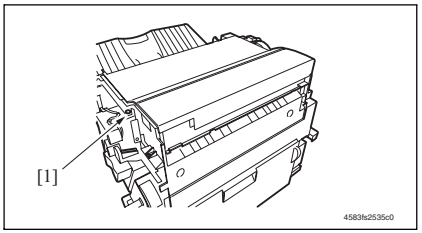


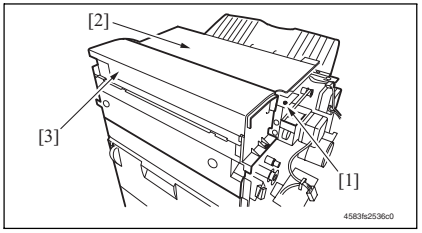
1. Remove the Front Cover.
☞ 2-3
2. Remove the Rear Cover.
☞ 2-3
3. Remove the Upper Door.
☞ 2-4
4. Unplug the connector [1].



5. Unplug the connector [3] while holding up the Finisher Tray Upper Cover [2], and remove the Finisher Tray Upper Cover [2].

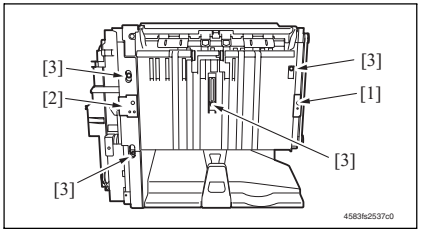
1.3.6 Upper Cover



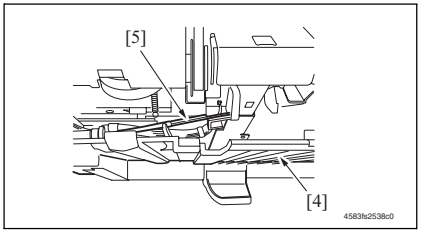


1. Remove the Front Cover.
☞ 2-3
2. Remove the Rear Cover.
☞ 2-3
3. Remove two screws [1].
4. Open the Upper Door[2],and remove the Upper Cover [3].

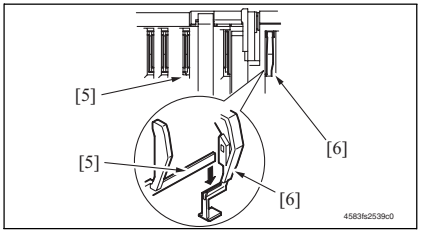
1.3.7 Side Guide



1. Remove the Exit Tray.
☞ 2-3
2. Remove the Front Cover.
☞ 2-3
3. Remove the Rear Cover.
☞ 2-3
4. Derail the Exit Tray Support Plate (Front) [1] and the Exit Tray Support Plate (Rear) [2] to the outside off the respective rail grooves.
5. Remove four screws [3].



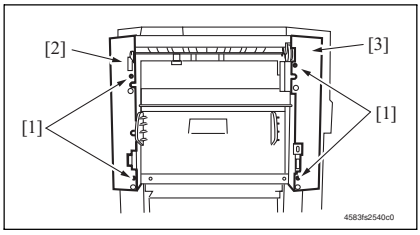
6. Pull down the Side Guide [4] lightly, disengage the Exit Tray Home Position Detecting Lever (Rear) [5], and then remove the Side Guide [4].



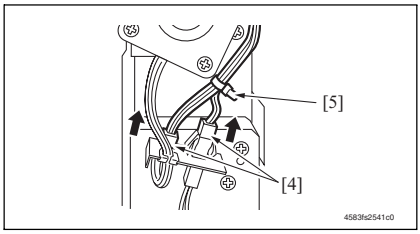
NOTES

- **In reassembling, ensure of exact installation with the Exit Tray Home Position Detecting Lever (Rear) [5] set in the slot of the Exit Tray Home Position Detecting Lever (Center) [6].**
- **After reassembly, press each of these levers for several times to make sure of exact installation.**

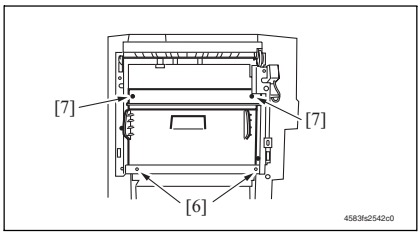
1.3.8 Middle Transport Unit



1. Remove four screws [1].
2. Hold up the Middle Front Cover [2] and the Middle Rear Cover [3], and remove them while shifting them back and forth.

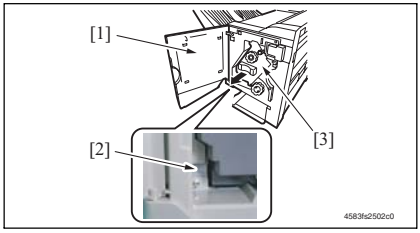


3. Unplug two connectors [4].
4. Pinch the tie band [5], and remove it from the sheet metal.

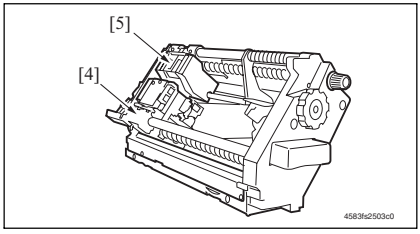


5. Remove two screws [6].
6. Loosen two screws [7].
7. Remove the Middle Transport Unit by sliding it upwards.

1.3.9 Stapler



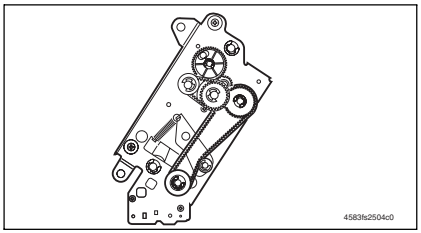
1. Open the Front Door [1].
2. Pull out the Stapler [3] while pressing the Stop Lever [2].



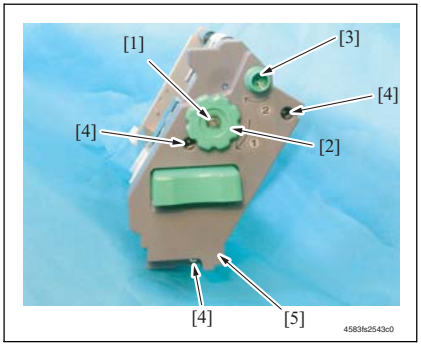
NOTES

- **Do not remove the Stapler from the shaft of the stapler frame, or displacement will be caused between the position to which the Staple Driver [4] (the lower unit of the Stapler) feeds staples and the position from which the Staple Clincher [5] (the upper unit of the Stapler) receives them.**

1.3.10 Stapler Phase Adjustment



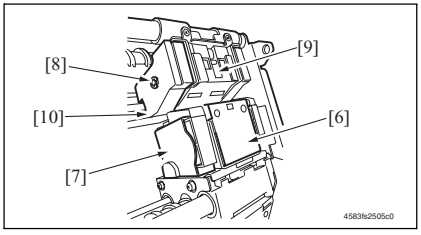
- Make phase adjustment of the Stapler following the procedures given below whenever the Gear or Timing Belt in front of the Stapler has been replaced or removed for some reason, since such replacement or removal will cause mistiming between the staple driving by the Staple Driver (the lower unit of the Stapler) and the staple clinching by the Staple Clincher (the upper unit of the Stapler).



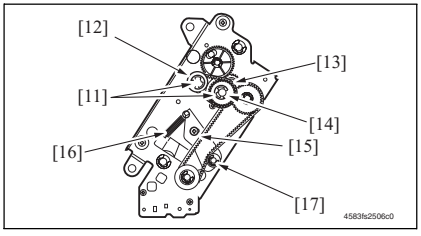
1. Remove the Stapler.

☞ 2-6

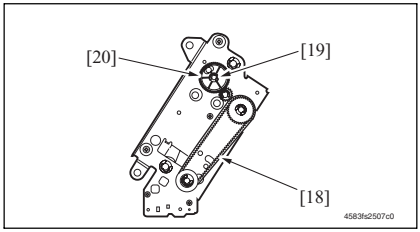
2. Remove the E-Ring [1], and remove the Jam Release Dial 1[2].
3. Remove the Jam Release Dial 2 [3].
4. Remove the three screws [4], and remove the Stapler Front Cover [5].



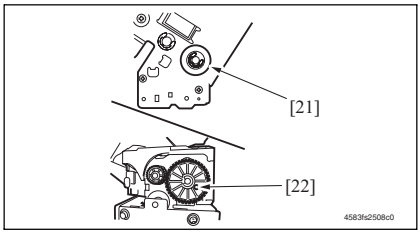
5. Remove the Gear Cover [7] from the Staple Driver [6].
6. Remove the E-Ring [8], and remove the Side Cover [10] from the Staple Clincher [9].



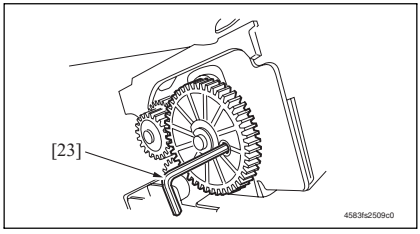
7. Remove two E-Rings [11], and remove the Staple Jam Release Gear [12], the Timing Belt [13] and the Middle Gear 1 [14].
8. Remove the spacer and the spring located behind the Staple Jam Release Gear.
9. Remove the screw [15] and the spring [16], and remove the Belt Tension Roller [17].



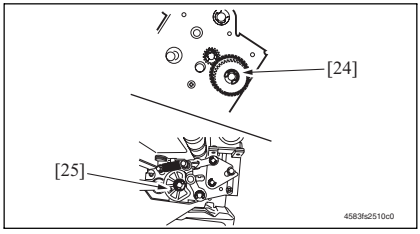
10. Remove the Timing Belt [18].
11. Remove the E-Ring [19], and remove the Staple Position Confirm Gear [20].



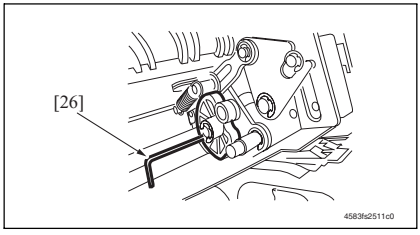
12. Turn the Gear [21] to position the hole [22] in the Gear of the Staple Driver to the hole behind.



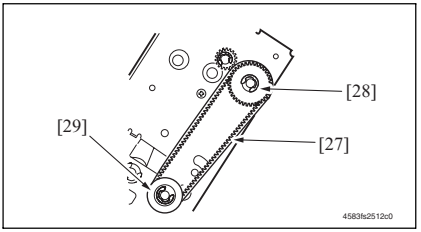
13. Insert a pin of approx.ϕ2 [23] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Gear.



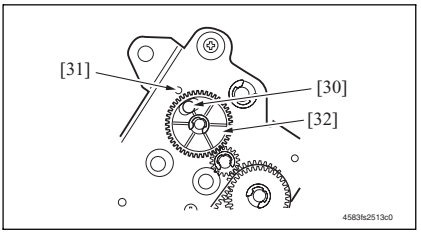
14. Turn the Gear [24] to position the hole [25] in the Cam of the Staple Clincher to the hole behind.



15. Insert a pin of approx.ϕ2 [26] (alternatively, 2 mm hexagonal wrench or the like can be preferably used) into the hole, and fix the Cam.



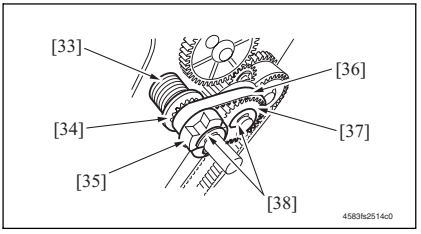
16. Set the Timing Belt [27] to the Gear [28] and Gear [29] with the Gear and the Cam in the fixed condition.



17. Install the Staple Position Confirm Gear [32] in such a way that the blue mark [30] of the Gear comes face to face with the hole [31] in the frame.

NOTE

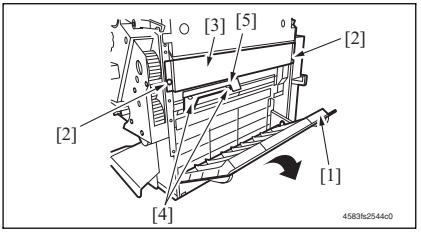
- **The position in which the blue mark meets face to face with the hole is the home position for stapling. If the Staple Jam Release Gear is turned for some reason, this home position will shift and the Staple Cartridge will not come off. In this case, the Staple Position Confirm Gear plays a role of resuming the stapling home position by referring to the blue mark. Therefore, the Gear should be set in place correctly.**



18. Remove the pin fixing the Gear and the Cam to release them.

19. Set the spring [33], the spacer [34], the Staple Jam Release Gear [35], the Timing Belt [36] and the Middle Gear 1 [37], and fix them with two E-Rings [38].

1.3.11 Saddle Section

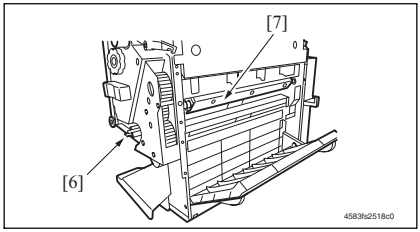


1. Remove the Front Cover.
☞ 2-3

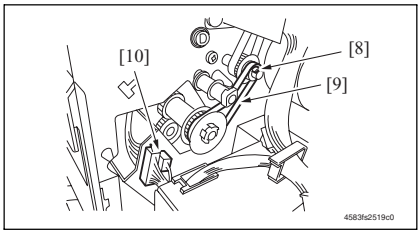
2. Remove the Rear Cover.
☞ 2-3

3. Open the Jam Access Cover [1], remove two screws [2], and remove the Right Stay [3].

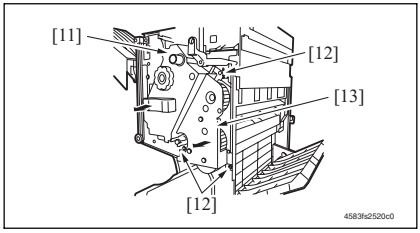
4. Remove two screws [4], and remove the Lever [5].



5. Turn the Folding Jam Release Dial [6] to move the Paper Pressure [7] inside.



6. Remove the C-clip [8], and remove the Timing Belt [9].
7. Unplug two connectors [10].

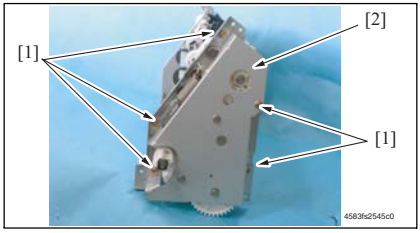


8. Remove the Stapler[11].

☞ 2-6

9. Remove three screws [12], and pull out and remove the Saddle [13].

1.3.12 Saddle Gear Phase Adjustment

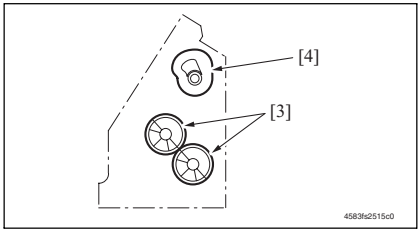


- Whenever the Gear in front of the Saddle or the Folding Roller has been replaced or removed for some reason, make gear phase adjustment following the procedures given below.

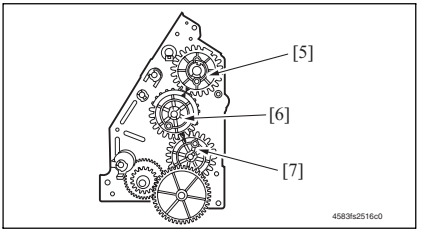
1. Remove the Saddle.

☞ 2-9

2. Remove five screws [1], and remove the Saddle Gear Cover [2].



3. Set the Folding Roller [3] and Saddle Cam [4] within the Saddle as shown in the figure.
4. With the Folding Roller and the Saddle Cam positioned as shown in the Left figure, set the gears as shown in the figure in the following way.

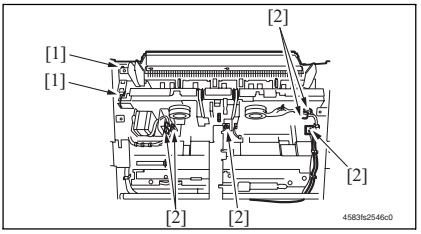


NOTE

- **The mark on the Saddle Cam Drive Gear [5] (either of the two marks) comes face to face with the mark on the Middle Gear [6] (the mark on the semispherical part with narrow gear face width).**

5. With the Saddle Cam Drive Gear [5] and the Middle Gear [6] positioned as above, the mark on the Middle Gear [6] (the mark on the other semi-spherical part) meets face to face with the rib of the Folding Roller Drive Gear [7].

1.3.13 Finisher Tray



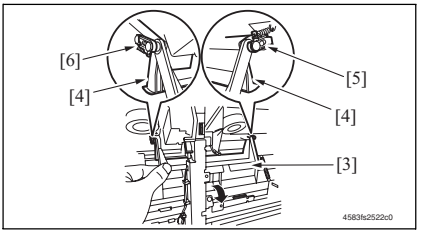
1. Remove the Finisher Tray Upper Cover.

☞ 2-4

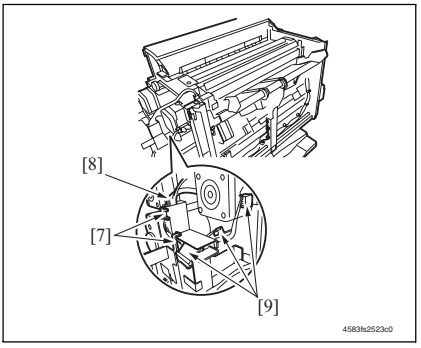
2. Remove the Side Guide.

☞ 2-5

3. Remove two screws [1],and unplug six connectors [2].

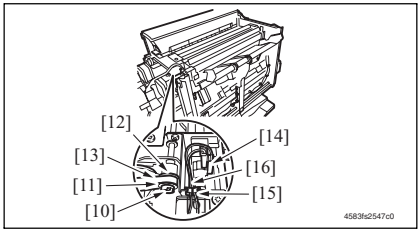


4. Pull out the Finisher Stopper Base [3], and disengage the front claw [5] and the rear claw [6] of the Finisher Stopper [4].

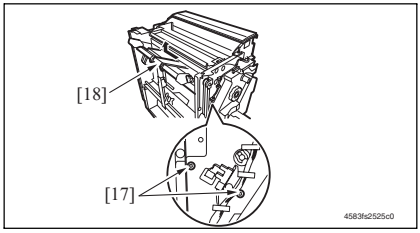


5. Remove the Motor Harness [8] from two Harness Saddles [7].

6. Unplug three connectors [9].

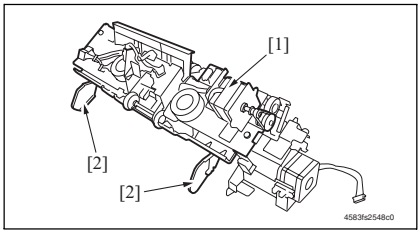


7. Remove the C-clip [10], and remove the spacer [11], and remove the Timing Belt [13] from the Gear [12].
8. Unplug the connector [14], and remove the Harness [16] from the Wire Saddle [15].



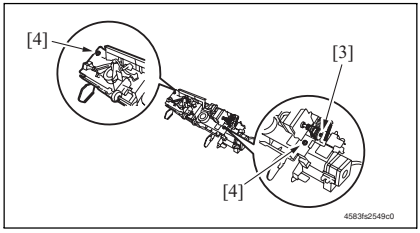
9. Remove two screws [17], and remove the Finisher Tray [18] by sliding it to the far side and lifting it.

1.3.14 Paddle Section

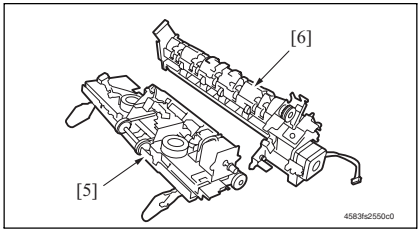


1. Remove the Finisher Tray.
☞ 2-11
2. Place the Finisher Tray [1] as shown in the figure.

NOTE
- **Be careful not to damage the Aligning Plate [2].**

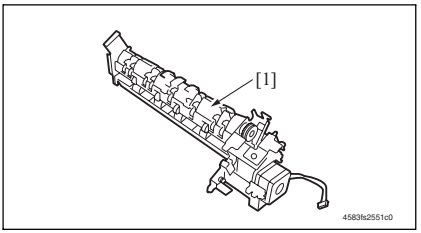


3. Remove the Timing Belt [3], and remove two screws [4].

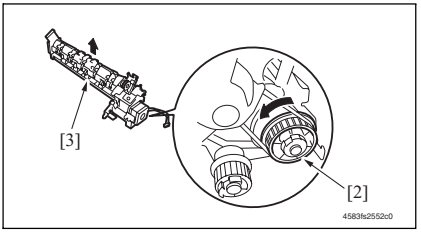


4. Separate the section into the Tray Section[5] and the Paddle Section [6].

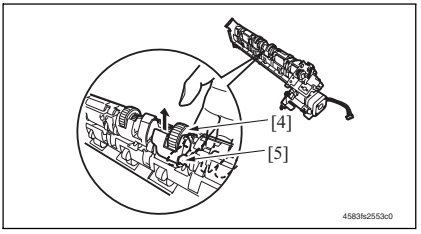
1.3.15 Exit Roller (Upper)



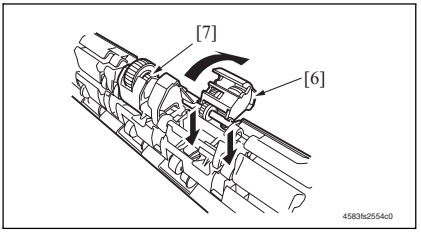
1. Remove the Paddle Section.
☞ 2-12
2. Place the Paddle Section [1] as shown in the figure.



3. Turn the gear [2] in the direction indicated by an arrow to move up the Exit Roller (Upper) section [3].

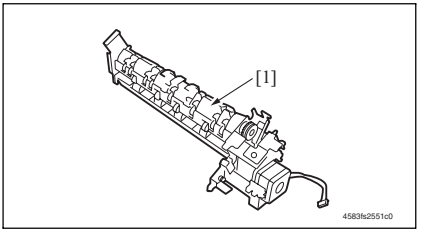


4. Push up the Exit Roller (Upper) [4] from the bottom to release it from the shaft [5].

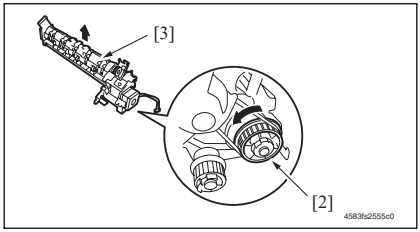


5. Turn up the Exit Roller (Upper) [6], and then push it down to remove it.
6. Remove the front Exit Roller (Upper) [7] as well in the same way.

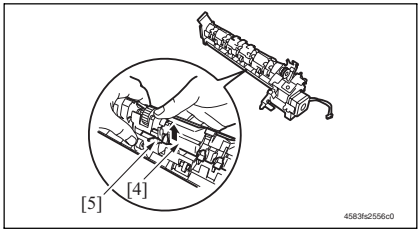
1.3.16 Paddle



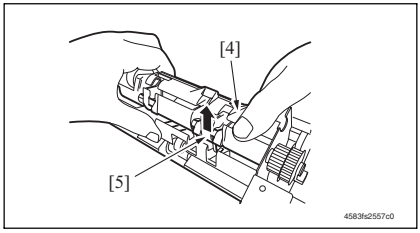
1. Remove the Paddle Section.
☞ 2-12
2. Place the Paddle Section [1] as shown in the figure.



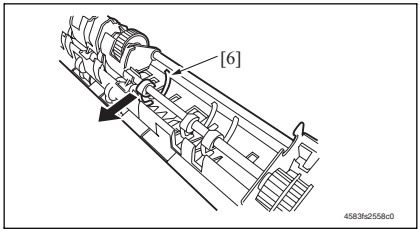
3. Turn the gear [2] in the direction indicted by an arrow to move up the Exit Roller (Upper) section [3].



4. Push up the Safety Guide [4] from the bottom to release it on one side from the shaft [5].

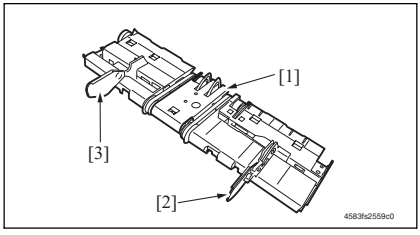


5. Push up the Safety Guide [4] from the bottom to release it from the shaft [5] and remove it.

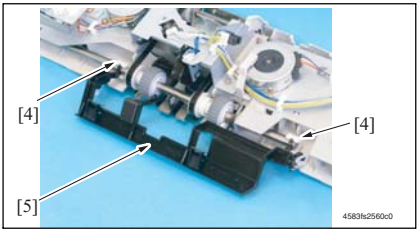


6. Remove the Paddle [6].
7. Remove the other Paddles as well in the same way.

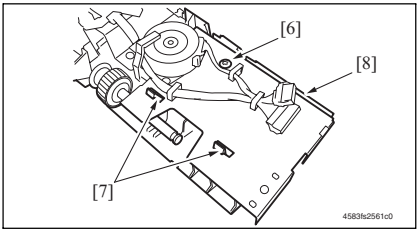
1.3.17 Exit Roller (Lower) and Paper Exit Belt



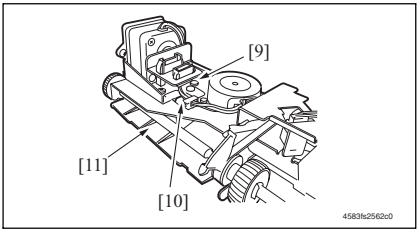
1. Remove the Tray Section.
☞ 2-12
2. Slide the Aligning Plate (Front) [2] and the Aligning Plate (Rear) [3] outside to remove them from the Tray [1].



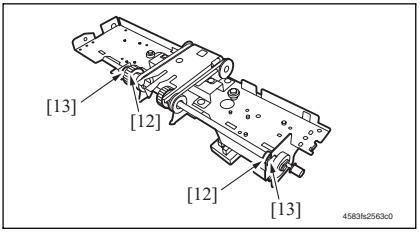
3. Remove two Holders [4], and remove the Finisher Tray Stopper [5].



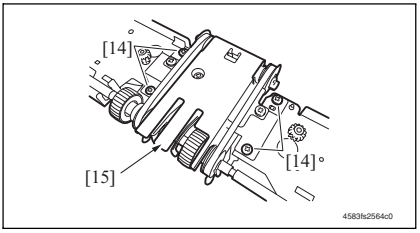
4. Remove the screw [6], and remove the Paper Guide (Front) [8] while disengaging two claws [7].



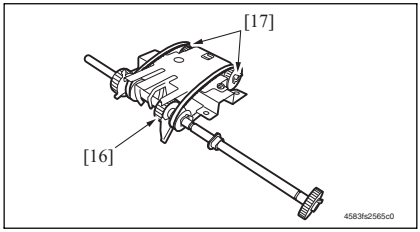
5. Remove the screw [9], and remove the Paper Guide (Rear) [11] while disengaging the claw [10].



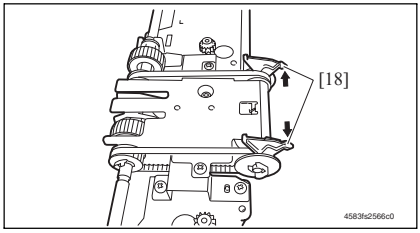
6. Remove two C-clips [12], and move two bushings [13] inside, respectively.



7. Remove four screws [14], and remove the Exit Roller (Lower) section [15] by lifting it.



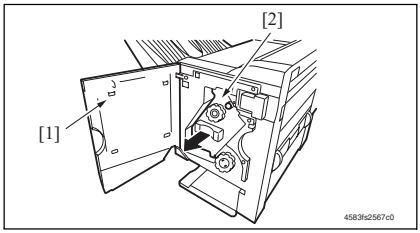
8. Remove the Exit Roller (Lower) [16] and two Paper Exit Belts [17].



NOTE

- **When installing, align the edge of claws of the Paper Exit Belt [18].**

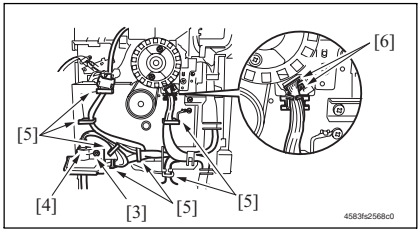
1.3.18 Stapler/Folding Drive Unit



1. Remove the Rear Cover.

☞ 2-3

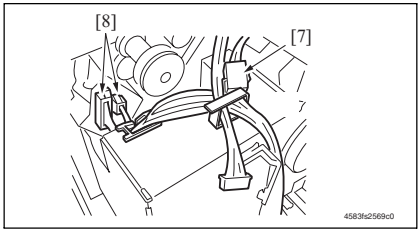
2. Open the Front Door [1], and slightly pull out the stapler section [2].



3. Remove screw [3], and remove the interface cable presser [4].

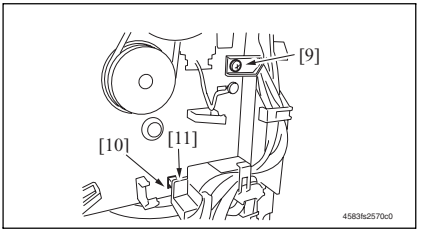
4. Remove the Harness from seven Harness Saddles[5].

5. Remove the Harness from the Wire Saddle, and unplug two connectors [6].

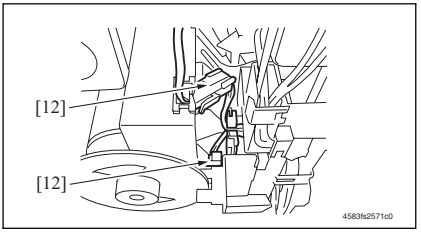


6. Remove the Harness from the Harness Saddle, and unplug the connector [7].

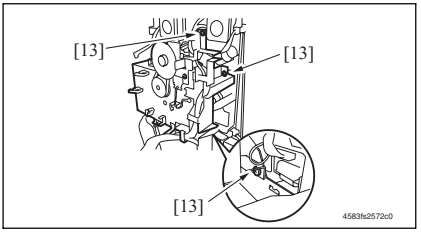
7. Remove the Harness from the Wire Saddle, and unplug two connectors [8].



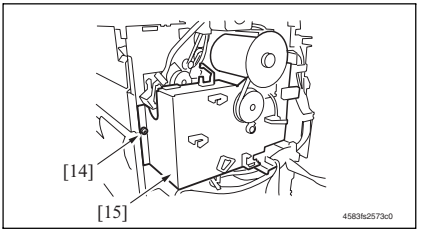
8. Remove the screw [9], and remove the claw of Harness Guide [11] from the square hole [10] in the base plate.



9. Unplug two connectors [12], and remove the Harness from the Wire Saddle.

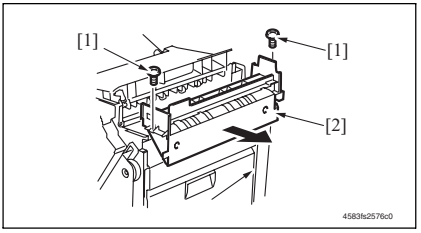


10. Remove three screws [13].

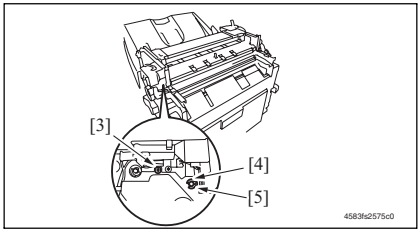


11. Remove the screw [14], and remove the Stapler/Folding Drive Unit [15].

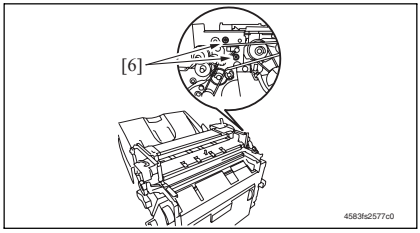
1.3.19 Transport Roller



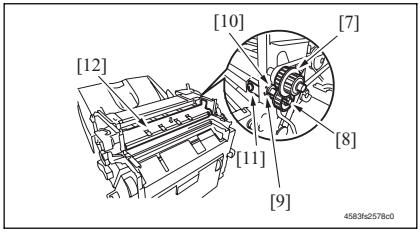
1. Remove the Upper Door.
☞ 2-4
2. Remove the Upper Cover.
☞ 2-5
3. Remove two screws [1], and remove the Upper Cover Unit [2].



4. Remove the Transport Motor Unit.
☞ 2-21
5. Remove the screw [3].
6. Remove the C-clip [4], and remove the bushing [5].



7. Remove two screws [6].

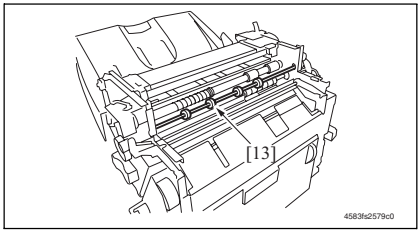


8. Remove the gear 1 [7], and remove the gear 2 [8] while disengaging the claw.

NOTE

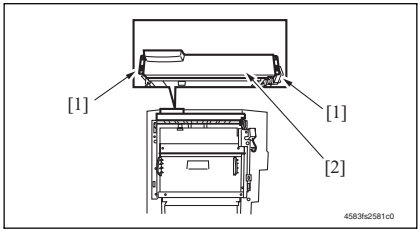
- **Be careful not to lose the gear pin.**

9. Remove the C-clip [9], and remove the bushing [10].
10. Remove the screw [11], and remove the Paper Guide (Lower) [12].

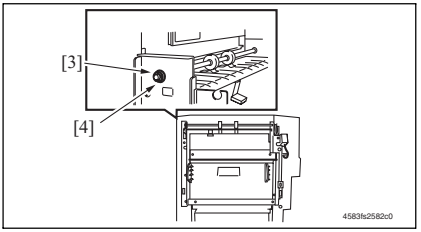


11. Remove the Transport Roller [13].

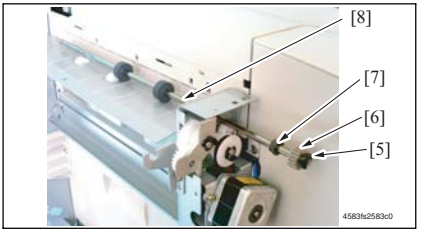
1.3.20 Middle Transport Roller



1. Remove the Middle Front Cover and the Middle Rear Cover.
☞ 2-6
2. Remove Two screws [1], and remove the Middle Upper Cover[2].

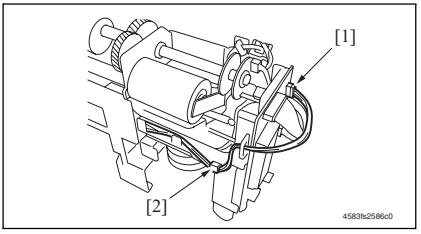


3. Remove the C-clip[3], and remove the bushing [4].

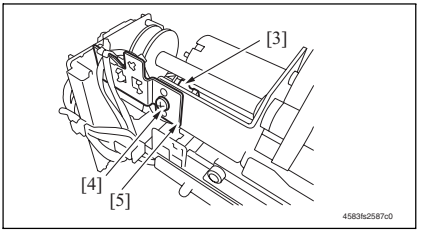


4. Shift the Shaft Assy in the orientation as shown on the left.
5. Remove the C-clip [5], the Gear [6], the bushing [7], and remove the Middle Transport Roller [8].

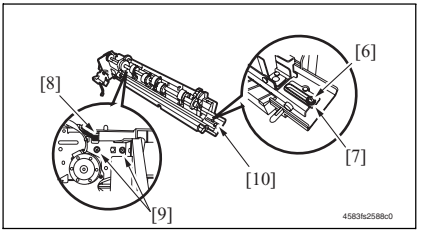
1.3.21 Punch Unit



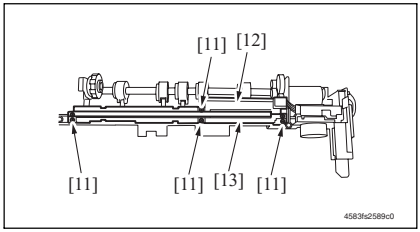
1. Remove the Punch Trash Box.
2. Unplug the connector J1005 [1].
3. Remove the Harness from the Harness Guide [2].



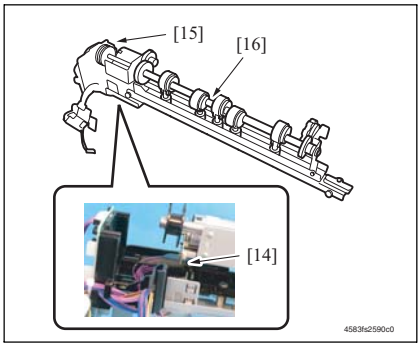
4. Unplug the connector [3].
5. Remove the screw [4], and remove the Sensor Support Plate [5].



6. Remove the screw [6] and the washer [7].
7. Unplug the connector [8].
8. Remove two screws [9], and remove the base cover [10].

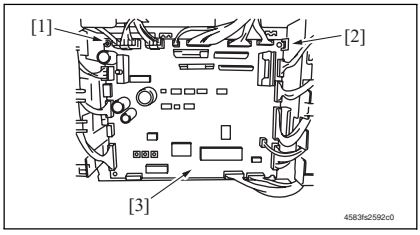


9. Remove four screws [11], and remove the Sensor Unit (Upper) [12] and the Sensor Unit (Lower) [13].



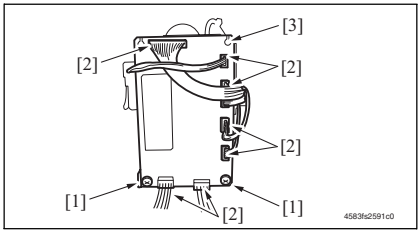
10. Remove the spring[14].
11. Remove the Punch Unit [16] from the Side Registration Motor section [15].

1.3.22 Finisher Control Board



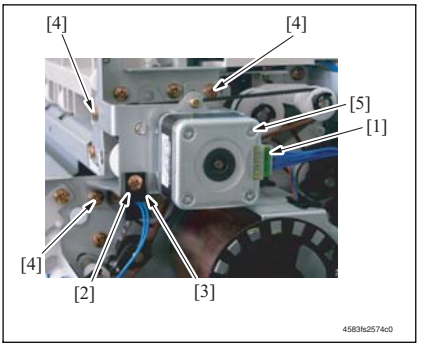
1. Remove the Rear Cover.
☞ 2-3
2. Unplug all connectors on the Board, and remove the screw [1].
3. Release the PCB support [2], and remove the Finisher Control Board [3].

1.3.23 Punch Control Board



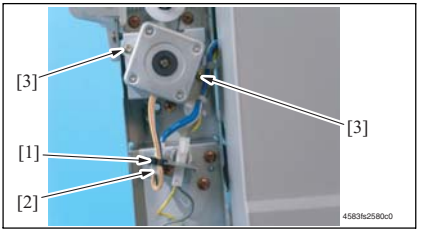
1. Remove two screws [1].
2. Unplug seven connectors [2], and remove the Punch Control Board [3].

1.3.24 Transport Motor Unit



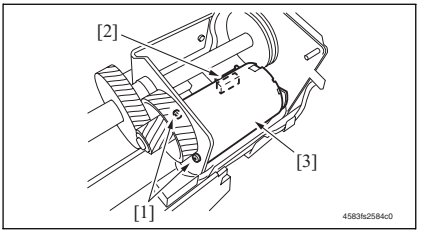
1. Remove the Rear Cover.
☞ 2-3
2. Unplug the connector [1].
3. Remove screw [2], and remove the Harness Guide [3].
4. Remove three screws [4], and remove the Transport Motor Unit [5].

1.3.25 Middle Transport Motor



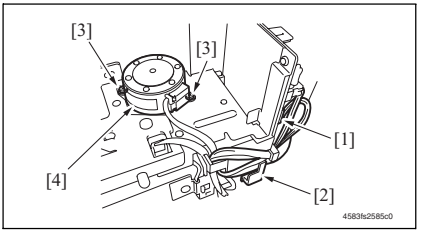
1. Remove the Middle Rear Cover.
☞ 2-6
2. Remove the harness from the Wire Saddle [1].
3. Unplug the connector [2].
4. Remove two screws [3].

1.3.26 Punch Motor



1. Remove the Upper Cover.
☞ 2-5
2. Remove two screws [1].
3. Unplug the connector [2], and remove the punch motor [3].

1.3.27 Side Registration Motor



1. Unplug the connector J1001 [1].
2. Remove the harness from the Harness Guide [2].
3. Remove two screws [3], and remove the Side Registration Motor [4].

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III Adjustment/Setting

1. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting" the default settings are indicated by boldface.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made.Check to see if:

1. The power supply voltage meets the specifications.
2. The power supply is properly grounded.
3. The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
5. The original has a problem that may cause a defective image.
6. The density is properly selected.
7. The Original Glass, slit glass, or related part is dirty.
8. Correct paper is being used for printing.
9. The units, parts, and supplies used for printing (developer, PC Drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
10. Toner is not running out.

B. Precautions for Service Jobs

1. Be sure to unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

2. I/O check

2.1 Check procedure

- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

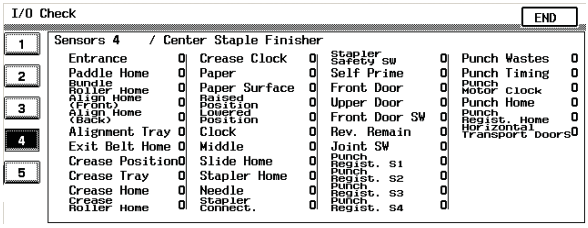
<Procedure>

1. Set the mode to the Tech. Rep. Mode.
2. Touch the "State Confirm" Check key.
3. Touch the "I/O Check" key.

2.2 I/O check list

2.2.1 I/O check screen

- This is only typical screen which may be different from what are shown on each individual main unit.



2.2.2 I/O check list

A. Sensor monitor 4 (FS-601, PK-501)

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI1-FN	Entrance	Entrance Sensor	Paper present	Paper not present
PI2-FN	Paddle Home	Paddle Home Position Sensor	HP	
PI3-FN	Bundle Roller Home	Swing Guide Home Position Sensor	HP	
PI4-FN	Align Home (Front)	Front Aligning Plate Home Position Sensor	HP	
PI5-FN	Align Home (Back)	Rear Aligning Plate Home Position Sensor	HP	
PI6-FN	Alignment Tray	Finisher Tray Sensor	Paper present	Paper not present
PI7-FN	Exit Belt Home	Exit Belt Home Position Sensor	HP	
PI10-FN	Crease Position	Folding Position Sensor	Paper present	Paper not present
PI13-FN	Crease Tray	Saddle Tray Sensor	Paper present	Paper not present
PI11-FN	Crease Home	Folding Home Position Sensor	HP	
PI12-FN	Crease Roller Home	Folding Roller Home Position Sensor	HP	
PI14-FN	Crease Clock	Staple/Folding Motor Clock Sensor		
PI8-FN	Paper	Exit Tray Sensor	Paper present	Paper not present
PI9-FN	Paper Surface	Exit Tray Home Position Sensor	DETECTED	
PI15-FN	Raised Position	Shift Upper Limit Sensor	UPPER LIMIT	

Symbol	Panel display	Part/Signal name	Operation characteristics/Panel display	
			1	0
PI16-FN	Lowered Position	Shift Lower Limit Sensor	LOWER LIMIT	
PI17-FN	Clock	Shift Motor Clock Sensor		
	Middle		FULL	
PI18-FN	Slide Home	Slide Home Position Sensor		HP
PI19-FN	Stapler Home	Staple Drive Home Position Sensor	HP	
PI20-FN	Needle	Staple Detecting Sensor	SUPPLIED	EMPTY
	Stapler Connect			DETECTED
MS3-FN MS4-FN	Stapler Safety SW	Staple Safety Switch (Rear) Staple Safety Switch (Front)	OPEN	CLOSE
PI21-FN	Self Prime	Self-Priming Sensor		READY
PI22-FN	Front Door	Front Door Open Sensor	CLOSE	OPEN
PI23-FN	Upper Door	Upper Cover Open Sensor	CLOSE	OPEN
MS1-FN	Front Door SW	Front Door Open Switch	CLOSE	OPEN
	Rev. Remain			HORIZONTAL
MS2-FN	Joint SW	Joint Open Switch	CLOSE	OPEN
	Punch Regist. S1			
	Punch Regist. S2			
	Punch Regist. S3			
	Punch Regist. S4			
	Punch Waste		FULL	
	Punch Timing			
PI3P-PK	Punch Motor Clock	Punch Motor Clock Sensor	Blocked	Unblocked
PI1P-PK	Punch Home	Punch Home Position Sensor	HP	
PI2P-PK	Punch Regist. Home	Side Registration Home Sensor	HP	
PC4-HO	Horizontal Transport Doors	Horizontal Unit Door Sensor	Blocked	Unblocked

3. Mechanical adjustment

3.1 Adjustment of the stapling position

- The stapling position is adjusted by aligning the stapling position to the folding position.
- This adjustment is made in the Tech. Rep. Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to "Board switch".

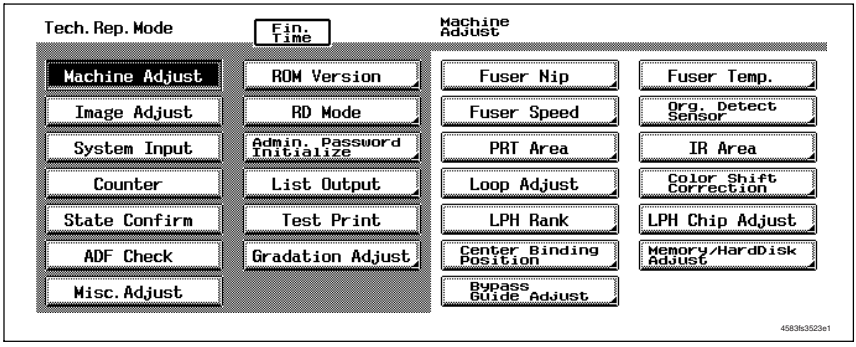
Adjustable range: - 7 to + 7 mm (Increment: 1 mm)

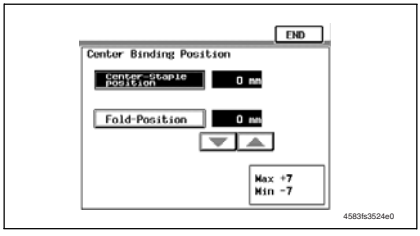
3.1.1 DF-601-equipped machine

1. Set A3 or 11 x 17 to the Feed Tray.
2. Select the functions as follows: Orig ▶Copy→4in1/Booklet→Booklet→Bind.
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

4. Press the "Start" Key.
5. Set the mode to the Tech. Rep. Mode.
6. Touch "Machine Adjust".
7. Touch "Center Binding Position".

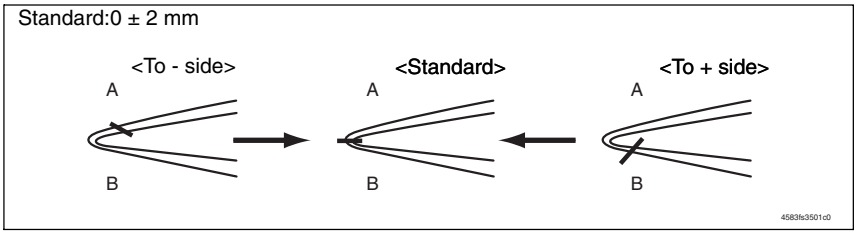


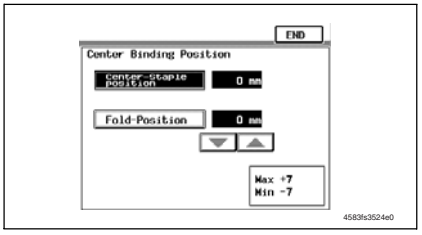


8. Touch "Center-Staple Position".
9. Renew the center folding of the finished copies.
   Take the top surface of the finished copies as "A", and the under surface as "B".
10. Check the deviation of the stapling position from the newly folded position.

NOTE

- **In checking the deviation, refer not to the folded position by the Finisher but to the newly folded position.**





11. Adjust with the ▲ and ▼ Keys.
When the stapling position is shifted to the direction A: Adjust the value to the - side.
When the stapling position is shifted to the direction B: Adjust the value to the + side.
12. Touch “END”.

13. Make the copy and check again.

NOTE

- **Set five or more sheets of original under the ADF, and then take copies and bind them into a booklet.**

3.1.2 DF-601-unequipped machine

1. Set A3 or 11 x 17 to the Feed Tray.
2. Select the functions as follows: Orig ▶Copy→4in1/Booklet→Booklet→Bind.
3. Set A3 or 11 x 17 original (blank paper acceptable) on the Original Glass.
4. Press the “Start” Key five times (to cause reading operation five times) Adjust the variation to the minimum by using five sheets.
5. Touch the “Finish” of the panel.
6. Press the “Start” Key.
7. Take the Steps from 5 to 14 of (1) “DF-601-equipped machine” in 3.1.1 “Adjustment of the stapling position”.

3.2 Adjustment of the folding position

- The folding position is adjusted by aligning the folding position to the stapling position.
- This adjustment is made in the Tech. Rep. Mode of the main unit. Since the adjustment is made in increments of 1 mm, this adjustment is useful for eliminating a displacement of 1mm or more.
- For the effective adjustment of a minimal displacement smaller than 1 mm, refer to “Board switch”.

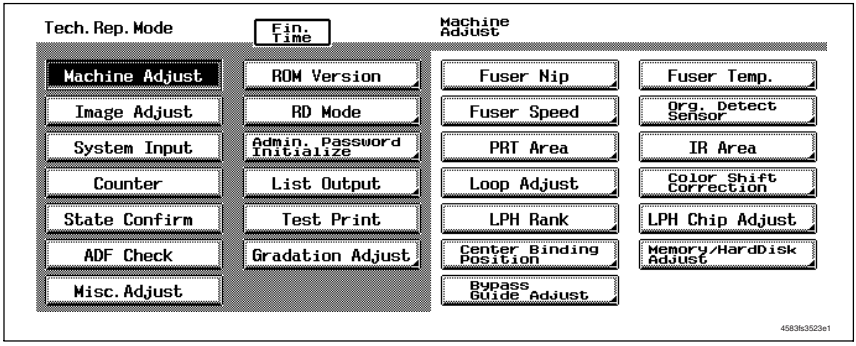
Adjustment range: - 7 to + 7 mm (Increment: 1 mm)

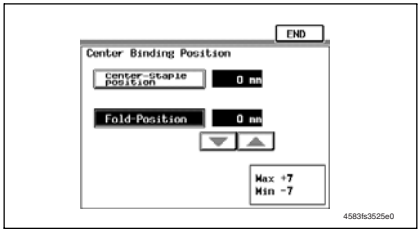
3.2.1 DF-601-equipped machine

1. Return to the basic screen.
2. Select the functions as follows: Orig ▶Copy→4in1/Booklet→Booklet→Bind.
3. Set five sheets of A3 or 11 x 17 original (blank paper acceptable) in the Original Tray.

- These five sheets are used for adjustment to minimize variation.

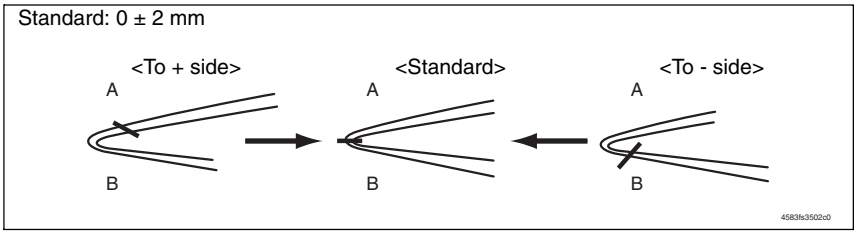
4. Press the “Start” Key.
5. Set the mode to the Tech. Rep. Mode.
6. Touch “Machine Adjust”.
7. Touch “Center Binding Position”.

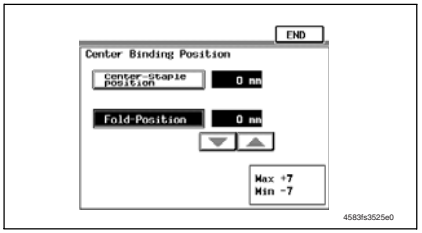




8. Touch “Fold-Position”.

9. Check the finished copies for deviation of the stapling position of from the newly folded position.
   Take the top surface of the finished copies as “A”, and the under surface as “B”.





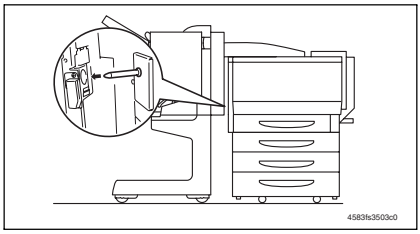
10. Adjust with the ▲ and ▼ Keys.When the stapling position is shifted to the direction A: Adjust the value to the + side.When the stapling position is shifted to the direction B: Adjust the value to the - side.
11. Touch “END”.

12. Make the copy and check again.

3.2.2 DF-601-unequipped machine

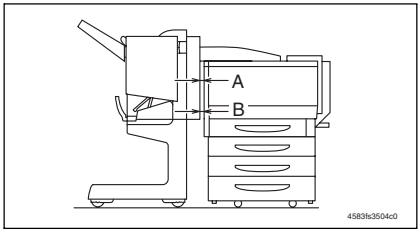
1. Return to the basic screen.
2. Select the functions as follows: Orig ▶Copy→4in1/Booklet→Booklet→Bind.
3. Set A3 or 11 x 17 original (blank paper acceptable) in the tray for original.
4. Press the “Start” Key five times (to cause reading operation five times) Adjust the variation to the minimum by using five sheets.
5. Touch the “Finish” of the panel.
6. Press the “Start” Key.
7. Take the Steps from 5 to 13 of (1) “DF-601-equipped machine” in 3.2.1 “Adjustment of the folding position”.

3.3 Adjustment of height and inclination

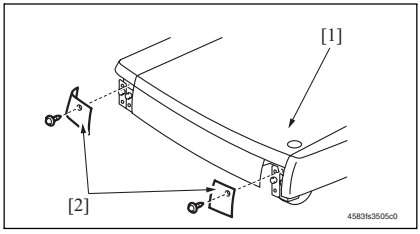


1. Gently move the finisher toward the machine and check for following.

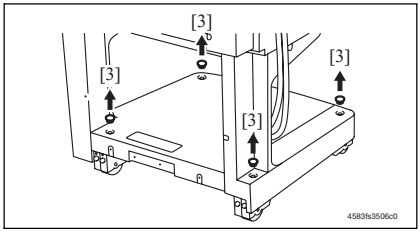
- Is the positioning pin aligned with the hole in the finisher?



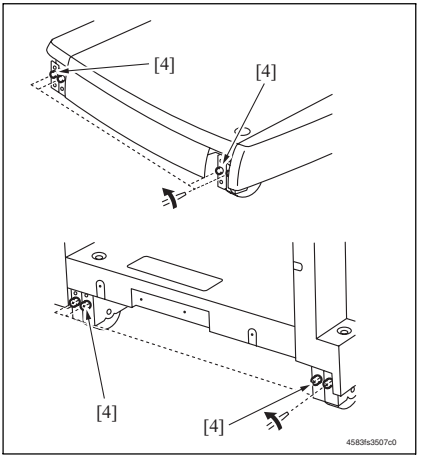
- Does the horizontal transport unit run excessively slantwise?
- Does the clearance at A equal that at B?
- If the finisher is not at the same height as the machine, adjust the machine as follows.



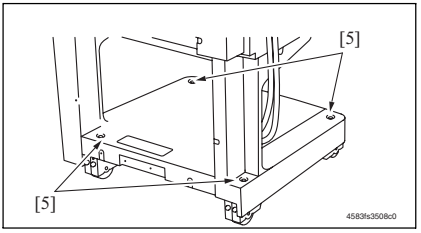
2. Remove the Finisher [1] from the main unit, and remove two caster covers [2].



3. Remove four adjusting screw covers[3].



4. Loosen four caster fixing screws[4].



5. Turn the adjustment screw[5] to make adjustment.

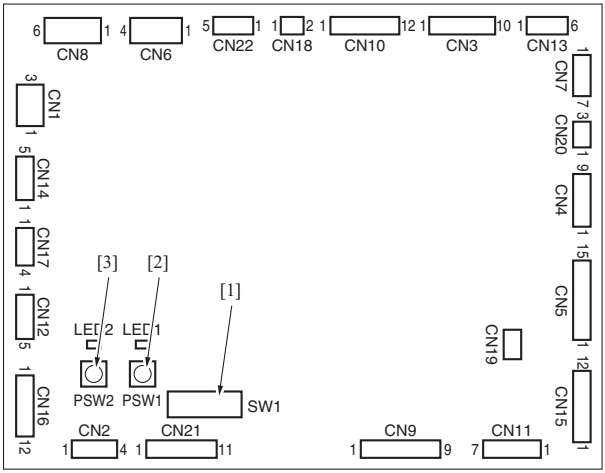
- To heighten: Turn the screw counter-clockwise.
- To bring down: Turn the screw clockwise.

6. Fasten the caster fixing screws.

7. Install the caster covers and the adjustment screw covers.

4. Board switch

4.1 PWB-A FN (Finisher Control Board)



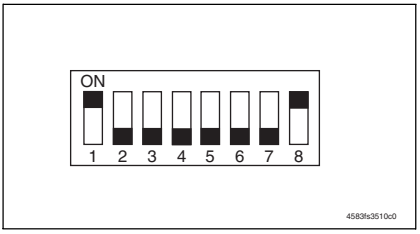
	Symbol	Description
1	SW1	Used to adjust the folding position and adjust the center 2-point stapling position.
2	PSW1	Used to adjust the folding position and adjust the center 2-point stapling position.
3	PSW2	Used to adjust the folding position and adjust the center 2-point stapling position.

4.1.1 Adjustment of the folding positions

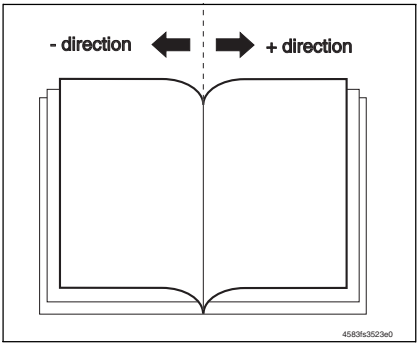
- When a folding position is adjusted, adjust the folding position to the stapling position. Make this adjustment after replacing the Finisher Control Board or when the folding position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of "Center Stapling Position" and "Folding Position" in the service mode to ± 0 mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the folding position. One pressing of the switch moves the folding position by approx. 0.16 mm.

- Press PSW1 to move the folding position in the "-" direction.
- Press PSW2 to move the folding position in the "+" direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the folding position, set all bits of SW1 on the Finisher Control Board to OFF.

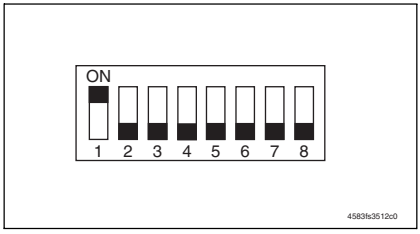
4. Perform the "Booklet Creation" on the main unit, and confirm that the folding position has been correctly adjusted. If not, redo the adjustment.

4.1.2 Adjustment of the center stapling position

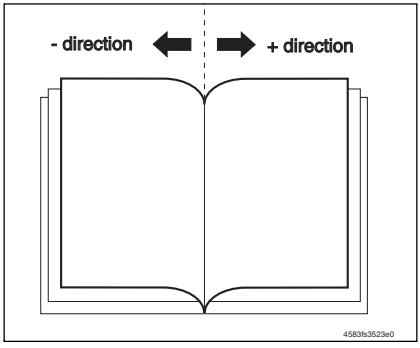
- When a stapling position is adjusted, adjust the stapling position to the folding position. Make this adjustment after replacing the Finisher Control Board or when the stapling position must be changed for some reason.

NOTE

- **Depending on the type of paper, both the folding position and the stapling position may be inaccurate. In this case, make adjustment independently from the Finisher. In this independent adjustment from the Finisher, set the adjustment value of "Center Stapling Position" and "Folding Position" in the service mode to ± 0mm on the main unit.**



1. Set SW1 on the Finisher Control Board as shown on the Left figure.



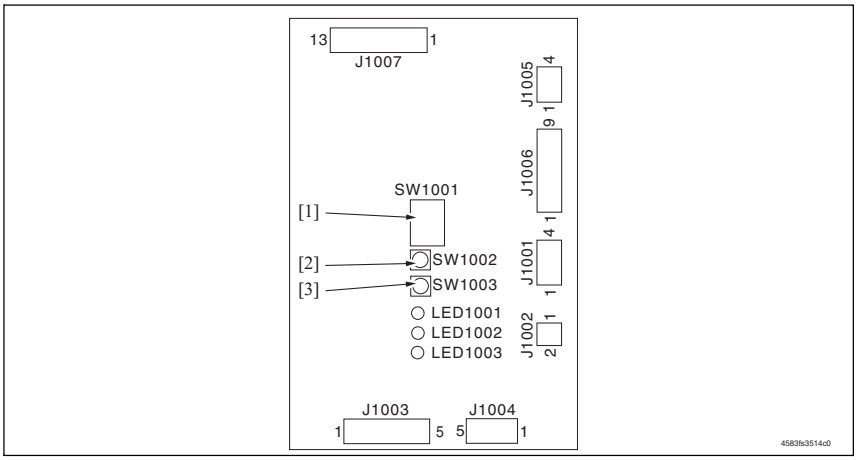
2. Press PSW1 or PSW2 on the Finisher Control Board for the required times to adjust the stapling position. One pressing of the switch moves the stapling position by approx. 0.14 mm.

- Press PSW1 to move the stapling position in the "-" direction.
- Press PSW2 to move the stapling position in the "+" direction.
- Press PSW1 and PSW2 simultaneously to clear the present set adjustment value.

3. After setting the adjustment value of the stapling position, set all bits of SW1 on the Finisher Control Board to OFF.

4. Perform the "Booklet Creation" on the main unit, and confirm that the stapling position has been correctly adjusted. If not, redo the adjustment.

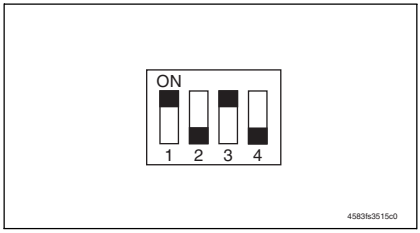
4.2 PWB-B PK (Punch Control Board)



	Symbol	Description
1	SW1001	Used to register the number of punched holes and adjust the sensor output.
2	SW1002	Used to register the number of punched holes and adjust the sensor output.
3	SW1003	Used to register the number of punched holes and adjust the sensor output.

4.2.1 Adjustment of the sensor output

- Be sure to make this adjustment after replacing the Punch Control Board, the Side Registration Sensor (Photosensor Board or LED Board) or the Punch Dust Full Sensor (Punch Dust Full Sensor Board or Punch Dust Full LED Board).

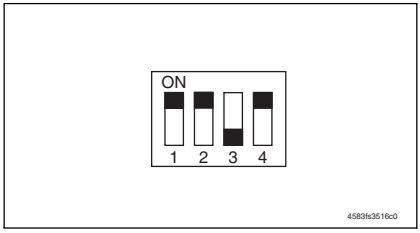


1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.
2. Press SW1002 or SW1003 on the Punch Control Board. The sensor output will be automatically adjusted.
- When all LED1001, LED1002 and LED1003 light up, the adjustment has been completed.

3. Set all bits of DIPSW1001 to OFF.

4.2.2 Registration of the number of punch holes

- In order for the Finisher to recognize the number of punch holes that can be achieved by the installed Punch Unit, such number of punch holes is registered in the IC on the Punch Control Board. Make this registration whenever the Punch Control Board has been replaced.
- However, this registration is not necessary if the EEP-ROM used on an old board has been reinstalled to a new board.



1. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.

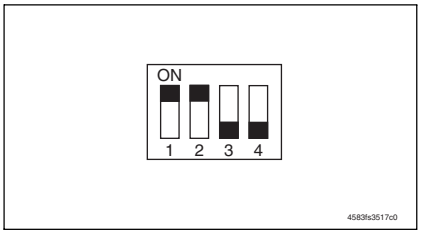
2. Press SW1002 on the Punch Control Board to select the number of punch holes.
- Each time SW1002 is pressed, the following display changes in the descending order shown below:

Number of punch holes	LED 1001	LED 1002	LED 1003
2 (Punch Unit J1)	ON	OFF	OFF
2/3 (Punch Unit K1)	ON	ON	OFF
4 (Punch Unit G1)	OFF	ON	OFF
4 (Punch Unit H1)	OFF	OFF	ON

3. Press SW1003 on the Punch Control Board twice. The number of punch holes will be registered in the Punch Control Board.
- The pressing of SW1003 changes the steady lighting of the LED to flickering, and the pressing of SW1003 again changes the flickering of the LED to steady lighting. This completes the registration.

4. Set all bits of DIPSW1001 to OFF.

4.2.3 Procedure after replacing the EEP-ROM (IC1002)



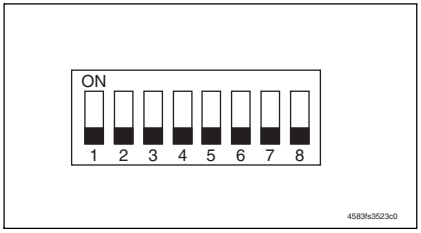
1. Turn OFF the Power switch of the main unit.
2. Set the bits 1 through 4 of DIPSW1001 on the Punch Control Board as shown on the Left figure.Press SW1002 and SW1003 on the Punch Control Board simultaneously.

- This will initialize the EEP-ROM. After the initialization, all LED1001, LED1002 and LED1003 light up.

3. Adjust the sensor output, and register the number of punch holes.
4. Set all bits of DIP SW 1001 to OFF.

4.2.4 Punch center position adjustment

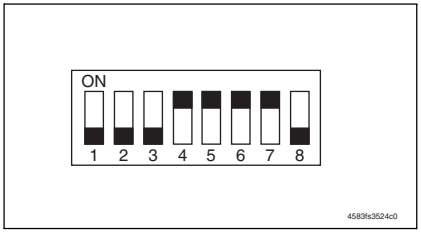
- This adjustment is made when the Punch lateral movement is changed from the lateral registration motion (automatic through end face detection) to fixed system based on the paper size.



1. Turn OFF the Power Switch of the main unit.
2. Remove the Rear Cover.

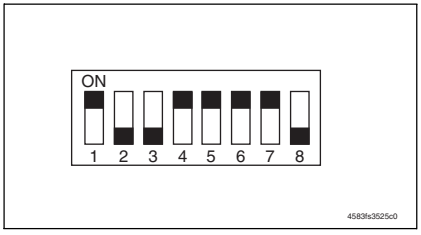
☞ 2-3

3. Check that all keys of SW1 of the Finisher Control Board are OFF.
4. Turn ON the Power Switch of the main unit and wait until the Finisher completes its initial operation.

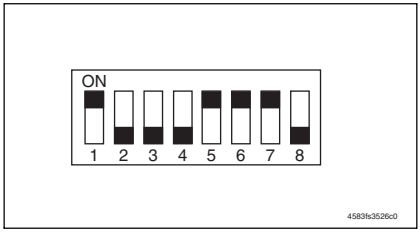


- Use the following procedure to clear the adjustment of the Punch lateral movement.

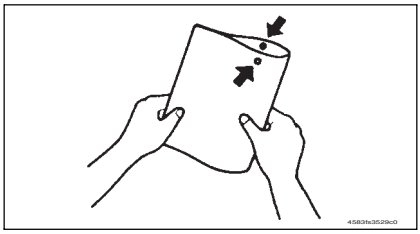
5. Turn ON keys 4, 5, 6, and 7 of SW1 of the Finisher Control Board.



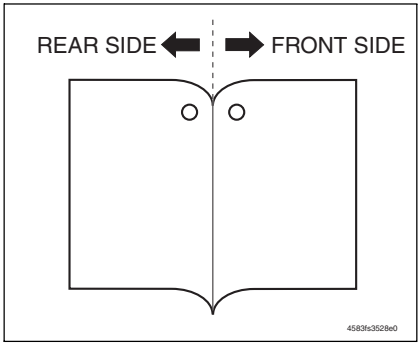
6. Turn ON key 1 of SW1 of the Finisher Control Board.
7. Press PSW1 and PSW2 of the Finisher Control Board at the same time.



8. Turn OFF key 4 of SW1 of the Finisher Control Board.
9. Wait until the machine becomes capable of paper feed.

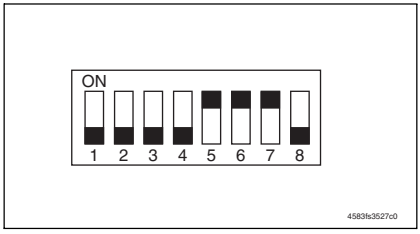


10. Feed one sheet of paper through the machine. Fold the copy fed out of the machine in half and check that the punch holes are aligned with each other.
Specifications:0 ± 2 mm
- If the specified range is not met, use the following procedure to adjust the Punch center position.



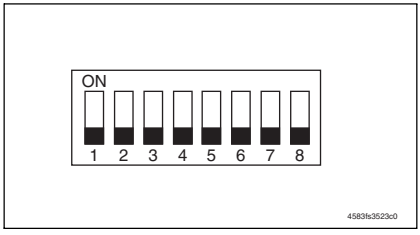
11. Press PSW1 or PSW2 of the Finisher Control Board once according to the direction of deviation.
- Pressing PSW1 moves the punch position to the front.
- Pressing PSW2 moves the punch position to the rear.
- Each press of PSW1 or PSW2 moves the position 1 mm. The adjustment range should be within ± 5 mm.

12. Feed another sheet of paper. If the punch hole position is not properly adjusted, make the adjustment once again.

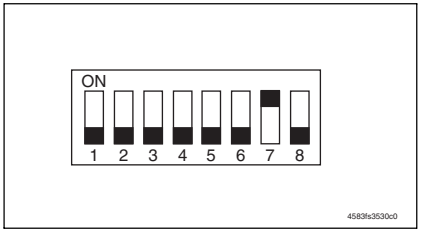


- When the adjustment procedure has been completed, use the following procedure to finish the adjustment mode.

13. Turn OFF key 1 of SW1 of the Finisher Control Board.



14. Turn OFF keys 5, 6, and 7 of SW1 of the Finisher Control Board.
15. Turn OFF the Power Switch of the main unit.



16. Turn ON key 7 of SW1 of the Finisher Control Board.

NOTES

- **Flipping ON key 7 of SW1 validates the setting made to the fixed system based on the paper size as changed from the lateral registration motion (automatic through end face detection).**
- **To return the setting back to the lateral registration motion, flip OFF key 7 of SW1.**

17. Turn ON the Power Switch of the main unit.

18. Reinstall the rear cover.

☞ 2-3

NOTE

- **The procedure must be carried out as specified. In particular, switching ON or OFF must be performed properly.**
- **If a step or steps are wrongly performed in mid procedure, stop the procedure immediately. Then, turn OFF and ON the Power Switch and start the procedure over.**
- **This adjustment is applicable only to the punch position center adjustment. The adjustment range is ± 5 mm. It does not adjust for variations in the punch hole positions.**

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IV Troubleshooting

1. Jam Display

1.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

1.2 Misfeed display

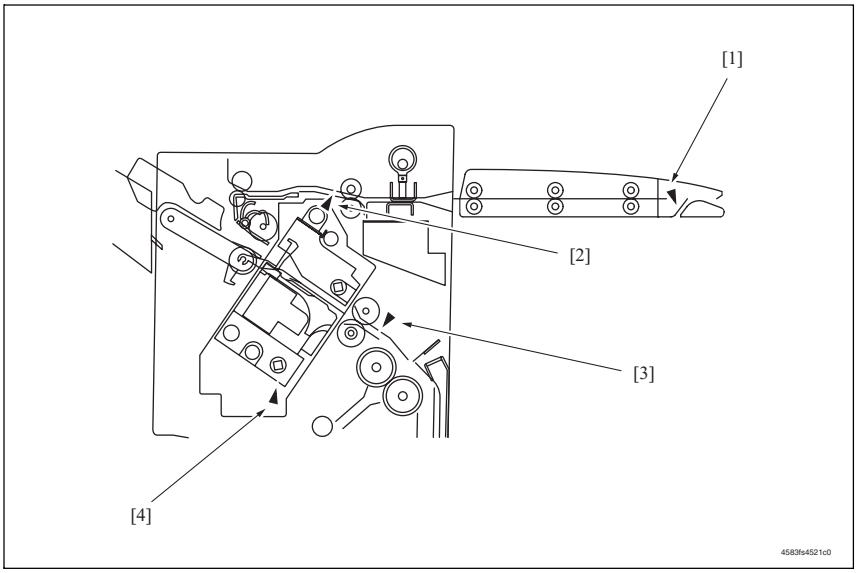
- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the Touch Panel of the main unit.

Misfeed location	Misfeed access location	Action
Transport section	Front Door	☞ 4-3
Horizontal Transport section	Horizontal Transport Cover	☞ 2-3
Folding Position section	Front Door	☞ 2-4
Stapler section	Front Door	☞ 2-4

1.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

1.3 Sensor layout



[1]	Turnover Empty Sensor	PC6-HO	[3]	Folding Position Sensor	PI10-FN
[2]	Entrance Sensor	PI1-FN	[4]	Staple Drive Home Position Sensor	PI19-FN

1.4 Solution

1.4.1 Transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The Entrance Sensor (PI1-FN) does not detect paper even after the lapse of approx. 1.5 sec. after the Entrance Sensor (PI1-FN) has received the paper exit signal from the main unit.
	Paper is not removed from the Entrance Sensor (PI1-FN) even after the lapse of approx. 2 sec. after the Entrance Sensor (PI1-FN) has detected paper edge.

B. Action

Relevant electrical parts	
Entrance Sensor (PI1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PI1-FN I/O, sensor check	PWB-A FN CN16 FN-11	G-3
3	PWB-A FN replacement	-	E-6

1.4.2 Horizontal Transport section misfeed

A. Detection timing

Type	Description
horizontal transport section misfeed detection	The Turnover Empty Sensor (PC6-HO) is not unblocked even after the lapse of a given period of time after the leading edge of the paper has blocked the Turnover Empty Sensor (PC6-HO).

B. Action

Relevant electrical parts	
Turnover Empty Sensor (PC6-HO)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PC6-HO I/O, sensor check	PWB-A FN CN21 FN-5	H-2
3	PWB-A FN replacement	-	E-6

1.4.3 Folding position section misfeed

A. Detection timing

Type	Description
Folding position section misfeed detection	The Folding Position Sensor (PI10-FN) does not detect paper even after the set period of time after the paper has been fed from the Transport Booklet Tray to the stapling position during stapling operation.
	Paper is not removed from the Folding Position Sensor (PI10-FN) even after the lapse of approx. 10.5 sec. after the Staple/Folding Motor (M7-FN) has been driven during stapling operation.

B. Action

Relevant electrical parts	
Folding Position Sensor (PI10-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PI10-FN I/O, sensor check	PWB-A FN CN16 FN-2	F-3
3	PWB-A FN replacement	-	E-6

1.4.4 Stapler section misfeed

A. Detection timing

Type	Description
Stapler section misfeed detection	The Staple Drive Home Position Sensor (PI19-FN) is not turned OFF or does not return to its home position even after the set period of time after the stapler has been driven.

B. Action

Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	-	-
2	PI19-FN I/O, sensor check	-	-
3	PWB-A FN replacement	-	E-6

2. Trouble code

2.1 Trouble code display

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.

2.2 Trouble code list

Code	Item	Description
C0B00	Transport System Drive malfunctions	• The Folding Roller Home Position Sensor (PI12-FN) is not unblocked even after the lapse of a given period of time after the Folding Roller has started moving from its home position. • The Folding Roller Home Position Sensor (PI12-FN) is not blocked even after the lapse of a given period of time after the Folding Roller has started moving from a position not the home position.
C0B05	Paddle Motor malfunctions	• The Paddle Home Position Sensor (PI2-FN) is not unblocked even after the lapse of a given period of time after the Paddle has started moving from its home position. • The Paddle Home Position Sensor (PI2-FN) is not blocked even after the lapse of a given period of time after the Paddle has started moving from a position not the home position. • The Swing Guide Home Position Sensor (PI3-FN) is not unblocked even after the lapse of a given period of time after the Booklet Roller has started moving from its home position. • The Swing Guide Home Position Sensor (PI3-FN) is not blocked even after the lapse of a given period of time after the Booklet Roller has started moving from a position not the home position.

Code	Item	Description
C0B25	Stapler Unit Slide Motor malfunctions	• The Slide Home Position Sensor (PI18-FN) is not unblocked even after the lapse of a given period of time after the Stapler Unit has started moving from its home position. • The Slide Home Position Sensor (PI18-FN) is not blocked even after the lapse of a given period of time after the Stapler Unit has started moving from a position not the home position.
C0B39	Front Aligning Plate Motor malfunctions	• The Front Aligning Plate Home Position Sensor (PI4-FN) is not unblocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from its home position to a position out of the home position. • The Front Aligning Plate Home Position Sensor (PI4-FN) is not blocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from a position out of the home position to the home position.
C0B3A	Rear Aligning Plate Motor malfunctions	• The Rear Aligning Plate Home Position Sensor (PI5-FN) is not unblocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from its home position to a position out of the home position. • The Rear Aligning Plate Home Position Sensor (PI5-FN) is not blocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from a position out of the home position to the home position.
C0B4C	Booklet Exit Motor malfunctions	• The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an ordinary operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an initial operation. • The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an ordinary operation.

Code	Item	Description
C0B55	Stapler/Folding Motor malfunctions	• The Staple Drive Home Position Sensor (PI19-FN) is not blocked even after the lapse of a given period of time after the clinch operation has started. • An encoder clock input is not detected within a given period of time during a clinch operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after the Folding Unit has started moving from a position out of the home position during an initial operation. • The Folding Home Position Sensor (PI11-FN) is not unblocked even after the lapse of a given period of time after a folding operation has been started during an ordinary operation. • The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after a folding operation has been started and the sensor has been unblocked during an ordinary operation. • An encoder clock input is not detected within a given period of time during a folding operation.
C0B75	Punch Control Board malfunctions	• No response is received to a request made by the Finisher within a given period of time during initial communications. • No response is received to a request made by the Finisher within a given period of time during ordinary communications. • There is no match in the checksum values of the backup data as checked twice. • The 24 V power source of the Punch Unit is OFF when an operation request is made from the Finisher.
C0B76	Punch Side Registration Motor malfunctions	• The Side Registration Home Sensor (PI2P-PK) is not unblocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from its home position. • The Side Registration Home Sensor (PI2P-PK) is not blocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from a position not the home position.
C0B77	Punch Motor malfunctions	• The home position is not detected within a given period of time after the Punch Motor has been rotated a half turn. • An encoder clock input is not detected even after the lapse of a given period of time during operation of the Punch Motor. • The setting value calculated during the initial operation falls outside the threshold value range.
C0B79	Punch Sensor malfunctions	• The light receiving voltage is 2.5 V or less when the illuminating voltage is set to 4.4 V. • The light receiving voltage is 2.5 V or more when the illuminating voltage is set to 0 V. • The illuminating voltage setting is 4.4 V or more after the adjustment has been made.

Code	Item	Description
C0BA0	Elevate Mechanism malfunctions	• The Exit Tray Home Position Sensor (PI9-FN) is not blocked even after the lapse of a given period of time after the tray has started moving up. • An encoder clock input is not detected within a given period of time during operation of the tray.
C9BF1	Backup RAM malfunction	• Data written in the Backup Memory differs from what is recorded in it and writing operation is not correctly performed even with two retry sequences (a total of three writing sequences).

NOTE

- **The Punch Unit detects punch-related malfunctions and notifies the Finisher of any malfunction detected.**

2.2.1 How to reset

- Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board to reset the following malfunctions: scanner-related malfunctions, fusing-related malfunctions, exposure lamp-related malfunctions and C3FFF.
- For any other malfunctions, open and close the Front Door or turn OFF and ON the Power Switch.

NOTE

- **Before starting the troubleshooting in relation to the Punch Mechanism C0B7X, be sure to turn OFF the Power Switch of the main unit.**

2.3 Solution

2.3.1 C0B00:Transport System Drive malfunctions

A. Detection timing

Malfunction code	Description
C0B00	The Folding Roller Home Position Sensor (PI12-FN) is not unblocked even after the lapse of a given period of time after the Folding Roller has started moving from its home position.
	The Folding Roller Home Position Sensor (PI12-FN) is not blocked even after the lapse of a given period of time after the Folding Roller has started moving from a position not the home position.

B. Action

Relevant electrical parts	
Folding Roller Home Position Sensor (PI12-FN) Transport Motor (M1-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI12-FN I/O, sensor check	PWB-A FN CN16 FN-9	G-3
4	M1-FN operation check when the Power Switch is turned OFF and ON.	-	A-9
5	PWB-A FN replacement	-	E-6

2.3.2 C0B05:Paddle Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B05	The Paddle Home Position Sensor (PI2-FN) is not unblocked even after the lapse of a given period of time after the Paddle has started moving from its home position.
	The Paddle Home Position Sensor (PI2-FN) is not blocked even after the lapse of a given period of time after the Paddle has started moving from a position not the home position.
	The Swing Guide Home Position Sensor (PI3-FN) is not unblocked even after the lapse of a given period of time after the Booklet Roller has started moving from its home position.
	The Swing Guide Home Position Sensor (PI3-FN) is not blocked even after the lapse of a given period of time after the Booklet Roller has started moving from a position not the home position.

B. Action

Relevant electrical parts	
Paddle Home Position Sensor (PI2-FN) Swing Guide Home Position Sensor (PI3-FN) Paddle Motor (M2-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI2-FN I/O, sensor check	PWB-A FN CN9 FN-2	H-5
4	PI3-FN I/O, sensor check	PWB-A FN CN9 FN-8	I-5
5	M2-FN operation check when the Power Switch is turned OFF and ON.	-	A-9
6	PWB-A FN replacement	-	E-6

2.3.3 C0B25:Stapler Unit Slide Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B25	The Slide Home Position Sensor (PI18-FN) is not unblocked even after the lapse of a given period of time after the Stapler Unit has started moving from its home position.
	The Slide Home Position Sensor (PI18-FN) is not blocked even after the lapse of a given period of time after the Stapler Unit has started moving from a position not the home position.

B. Action

Relevant electrical parts	
Slide Home Position Sensor (PI18-FN) Slide Motor (M8-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI18-FN I/O, sensor check	PWB-A FN CN11 FN-3	F-2
4	M8-FN operation check when the Power Switch is turned OFF and ON.	-	I-8
5	PWB-A FN replacement	-	E-6

2.3.4 C0B39:Front Aligning Plate Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B39	The Front Aligning Plate Home Position Sensor (PI4-FN) is not unblocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from its home position to a position out of the home position.
	The Front Aligning Plate Home Position Sensor (PI4-FN) is not blocked even after the lapse of a given period of time after the Front Aligning Plate has started moving from a position out of the home position to the home position.

B. Action

Relevant electrical parts	
Front Aligning Plate Home Position Sensor (PI4-FN) Front Aligning Motor (M4-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI4-FN I/O, sensor check	PWB-A FN CN4 FN-2	E-8
4	M4-FN operation check when the Power Switch is turned OFF and ON.	-	B-7
5	PWB-A FN replacement	-	E-6

2.3.5 C0B3A:Rear Aligning Plate Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B3A	The Rear Aligning Plate Home Position Sensor (PI5-FN) is not unblocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from its home position to a position out of the home position.
	The Rear Aligning Plate Home Position Sensor (PI5-FN) is not blocked even after the lapse of a given period of time after the Rear Aligning Plate has started moving from a position out of the home position to the home position.

B. Action

Relevant electrical parts	
Rear Aligning Plate Home Position Sensor (PI5-FN) Rear Aligning Motor (M5-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI5-FN I/O, sensor check	PWB-A FN CN5 FN-15	E-8
4	M5-FN operation check when the Power Switch is turned OFF and ON.	-	B-7
5	PWB-A FN replacement	-	E-6

2.3.6 C0B4C:Booklet Exit Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B4C	The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an initial operation.
	The Exit Belt Home Position Sensor (PI7-FN) is not unblocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from its home position during an ordinary operation.
	The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an initial operation.
	The Exit Belt Home Position Sensor (PI7-FN) is not blocked even after the lapse of a given period of time after the Booklet Exit Belt has started moving from a position not the home position during an ordinary operation.

B. Action

Relevant electrical parts	
Exit Belt Home Position Sensor (PI7-FN) Exit Motor (M3-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI7-FN I/O, sensor check	PWB-A FN CN5 FN-6	F-8
4	M3-FN operation check when the Power Switch is turned OFF and ON.	-	B-7
5	PWB-A FN replacement	-	E-6

2.3.7 C0B55:Stapler/Folding Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B55	The Staple Drive Home Position Sensor (PI19-FN) is not blocked even after the lapse of a given period of time after the clinch operation has started.
	An encoder clock input is not detected within a given period of time during a clinch operation.
	The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after the Folding Unit has started moving from a position out of the home position during an initial operation.
	The Folding Home Position Sensor (PI11-FN) is not unblocked even after the lapse of a given period of time after a folding operation has been started during an ordinary operation.
	The Folding Home Position Sensor (PI11-FN) is not blocked even after the lapse of a given period of time after a folding operation has been started and the sensor has been unblocked during an ordinary operation.
	An encoder clock input is not detected within a given period of time during a folding operation.

B. Action

(1) Wiring

Relevant electrical parts	
Staple Drive Home Position Sensor (PI19-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI19-FN I/O, sensor check	-	-
4	M7-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN CN6 FN-3,4	A-4
5	PWB-A FN replacement	-	E-6

(2) Stapler/Crease Clock Sensor (Stapler Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI14-FN I/O, sensor check	PWB-A FN CN9 FN-5	I-5
4	M7-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN CN6 FN-3,4	A-4
5	PWB-A FN replacement	-	E-6

(3) Home Position Sensor

Relevant electrical parts	
Folding Home Position Sensor (PI11-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI11-FN I/O, sensor check	PWB-A FN CN16 FN-6	F-3
4	M7-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN CN6 FN-3,4	A-4
5	PWB-A FN replacement	-	E-6

(4) Stapler/Crease Clock Sensor (Saddle Section)

Relevant electrical parts	
Staple/Folding Motor Clock Sensor (PI14-FN) Staple/Folding Motor (M7-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI14-FN I/O, sensor check	PWB-A FN CN9 FN-5	I-5
4	M7-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN CN6 FN-3,4	A-4
5	PWB-A FN replacement	-	E-6

2.3.8 C0B75:Punch Control Board malfunctions

A. Detection timing

Malfunction code	Description
C0B75	No response is received to a request made by the Finisher within a given period of time during initial communications.
	No response is received to a request made by the Finisher within a given period of time during ordinary communications.
	There is no match in the checksum values of the backup data as checked twice.
	The 24 V power source of the Punch Unit is OFF when an operation request is made from the Finisher.

B. Action

Relevant electrical parts	
Finisher Control Board (PWB-A FN) Punch Control Board (PWB-B PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn OFF and ON the main switch.	-	-
2	Check the connection condition between the Punch Unit and PWB-A FN.	-	-
3	Measure the voltage between CN14-5 (+) and CN14-3 (-) of the PWB-A FN. Is the voltage 24VDC?	-	-
4	Initialize Punch Unit EEP-ROM.	-	-
5	PWB-B PK replacement	-	C-1
6	PWB-A FN replacement	-	E-6

2.3.9 C0B76:Punch Side Registration Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B76	The Side Registration Home Sensor (PI2P-PK) is not unblocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from its home position.
	The Side Registration Home Sensor (PI2P-PK) is not blocked even after the lapse of a given period of time after the Punch Side Registration Unit has started moving from a position not the home position.

B. Action

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	-	-
2	PI2P-PK I/O, sensor check	PWB-B PK J1006 PK-3	C-2
3	PWB-B PK replacement	-	C-1

2.3.10 C0B77: Punch Motor malfunctions

A. Detection timing

Malfunction code	Description
C0B77	The home position is not detected within a given period of time after the Punch Motor has been rotated a half turn.
	An encoder clock input is not detected even after the lapse of a given period of time during operation of the Punch Motor.
	The setting value calculated during the initial operation falls outside the threshold value range.

B. Action

Relevant electrical parts	
Punch Home Position Sensor (PI1P-PK) Punch Motor Clock Sensor (PI3P-PK) Punch Motor (M1P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI1P-PK I/O, sensor check	PWB-B PK J1006 PK-6	C-2
4	PI3P-PK I/O, sensor check	PWB-B PK J1006 PK-9	C-2
5	M1P-PK operation check when the Power Switch is turned OFF and ON.	PWB-B PK J1002 PK-1,2	D-2
6	PWB-B PK replacement	-	C-1

2.3.11 C0B79:Punch Sensor malfunctions

A. Detection timing

Malfunction code	Description
C0B79	The light receiving voltage is 2.5 V or less when the illuminating voltage is set to 4.4 V.
	The light receiving voltage is 2.5 V or more when the illuminating voltage is set to 0 V.
	The illuminating voltage setting is 4.4 V or more after the adjustment has been made.

B. Action

(1) Side Registration Sensor

Relevant electrical parts	
Side Registration Home Sensor (PI2P-PK)	Punch Control Board (PWB-B PK)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	-	-
2	PI2P-PK I/O, sensor check	PWB-B PK J1006 PK-3	C-2
3	PWB-B PK replacement	-	C-1

(2) Wastes Full Sensor

Relevant electrical parts	
Punch Control Board (PWB-B PK) Punch Trash Full Photo Sensor Board (PWB-E PK) Punch Trash Full LED Board (PWB-F PK)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connection condition between PWB-B PK and PWB-E PK.	-	-
2	Check the connection condition between PWB-B PK and PWB-F PK.	-	-
3	PWB-E PK replacement	-	A-3
4	PWB-F PK replacement	-	A-3
5	PWB-B PK replacement	-	C-1

2.3.12 C0BA0:Elevate Mechanism malfunctions

A. Detection timing

Malfunction code	Description
C0BA0	The Exit Tray Home Position Sensor (PI9-FN) is not blocked even after the lapse of a given period of time after the tray has started moving up.
	An encoder clock input is not detected within a given period of time during operation of the tray.

B. Action

(1) Upper Limit Sensor

Relevant electrical parts	
Shift Upper Limit Sensor (PI15-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	-	-
2	PI15-FN I/O, sensor check	PWB-A FN CN15 FN-12	G-8
3	PWB-A FN replacement	-	E-6

(2) Finisher Control Board

Relevant electrical parts	
Exit Tray Home Position Sensor (PI9-FN) Shift Motor Clock Sensor (PI17-FN) Shift Motor (M6-FN)	Finisher Control Board (PWB-A FN)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	-	-
2	Check the connector of motor for proper drive coupling, and correct as necessary.	-	-
3	PI9-FN I/O sensor check	PWB-A FN CN5 FN-12	E-8
4	PI17-FN I/O sensor check	PWB-A FN CN15 FN-6	G-8
5	M6-FN operation check when the Power Switch is turned OFF and ON.	PWB-A FN CN6 FN-1,2	A-4
6	PWB-A FN replacement	-	E-6

2.3.13 C0BF1:Backup RAM malfunction

A. Detection timing

Malfunction code	Description
C0BF1	Data written in the Backup Memory differs from what is recorded in it and writing operation is not correctly performed even with two retry sequences (a total of three writing sequences).

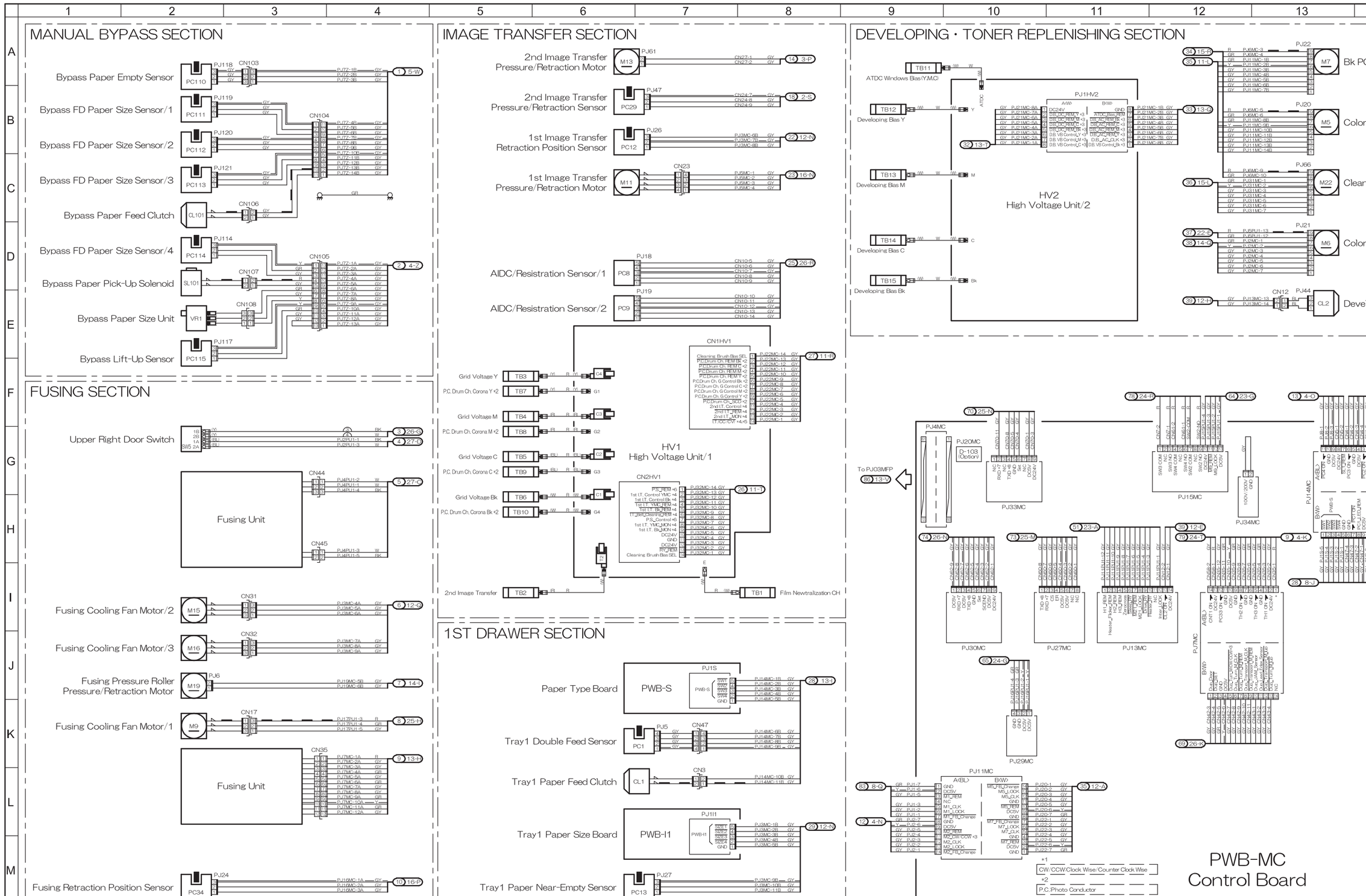
B. Action

Relevant electrical parts	
Finisher Control Board (PWB-A FN)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord to turn OFF and ON the main switch.	-	-
2	Check the connectors for proper connection on the PWB-A FN.	-	-
3	PWB-A FN replacement	-	E-6

Blank page

C350 Overall Wiring Diagram



14 15 16 17 18 19 20 21 22 23 24 25 26 27

A B C D E F G H I J K L M

C Motor

PC Drum Motor

ing Brush Motor

Developing Motor

loping Clutch/Bk

PJ1N1
PWB-N1
ATDC Sensor/Y
PJ1N2
PWB-N2
ATDC Sensor/M
PJ1N3
PWB-N3
ATDC Sensor/C

40 15-F GY PJ23MC-1 GY PJ23MC-2 GY PJ23MC-3 GY PJ23MC-4
TH1 OUT GND DC5V PWB-N1_LED_REM
TH2 OUT GND DC5V PWB-N2_LED_REM
TH3 OUT GND DC5V PWB-N3_LED_REM

Tube
41 18-N GY CN33-9 GY CN33-10 GY CN33-11 GY CN33-12
CN38
UN10
ATDC Sensor/Bk

31 8-N GY PJ1N1-4 GY PJ1N1-3 GY PJ1N2-4 GY PJ1N2-3 GY PJ1N3-4 GY PJ1N3-3 GY PJ1N1-2 GY PJ1N1-1
40 15-A
PJ23MC

PJ19MC
B<V> A<BL>
84 8-R GY CN57-4 GY CN57-3 GY CN57-2 GY CN57-1 GY PJ6-2 GY PJ6-1 GY PJ59-2 GY PJ59-1 GY PJ1S1-6 GY PJ1S1-5 GY PJ1S1-4 GY PJ1S1-3 GY PJ1S1-2 GY PJ1S1-1
GND Set Plug-In Counter DC24V M19 DC24V CNT2 ON GND X4 X3 Y8 Y7 Y6
CN10-1 GY CN10-2 GY CN10-3 GY CN10-4 GY CN10-5 GY CN10-6 GY CN10-7 GY CN10-8 GY CN10-9 GY CN10-10 GY CN10-11 GY CN10-12 GY CN10-13 GY CN10-14 GY
77 24-G

PJ8MC
B<V> A<BL>
91 17-P GY PJ49-3 Y PJ49-2 GR PJ49-1 GY PJ52-2 GR PJ50-1 Y PJ4-1 GY PJ4-3 GY PJ4-5 GY PJ4-6 GY PJ4-7 GR PJ4-8
PC31 ON DC5V PC31_REM GND PC32 ON DC5V CSW CLK(O) DATA OUT(O) DATA IN(O) GND NC DC5V
GND DATA IN(M) DATA OUT(M) CLK(M) CSW DC5V GND DATA IN(Y) DATA OUT(Y) CLK(Y) CSW DC5V
PJ10-8 GR PJ10-7 GY PJ10-6 GY PJ10-5 GY PJ10-4 GY PJ10-3 Y PJ9-8 GR PJ9-7 GY PJ9-6 GY PJ9-5 GY PJ9-4 GY PJ9-3 Y PJ9-1
48 17-L
47 17-K

PJ31MC
GND DC5V M22_REM N.C M22_CLK M22_LOCK M22_PB_Chanel
PJ66-7 GR PJ66-6 Y PJ66-5 GY PJ66-4 GY PJ66-3 GY PJ66-2 GY PJ66-1 GY
38 12-K

PJ10MC
DC5V CSW(K) DATA OUT(K) DATA IN(K) GND GND UN10 ON DC24V UN10 ON
CN33-1 Y CN33-2 GY CN33-3 GY CN33-4 GY CN33-5 GY CN33-6 GR CN33-9 GY CN33-10 GY CN33-11 GY CN33-12 GY
49 17-M

PJ9MC
DA1_REM DC24V DA2_REM DC24V DA3_REM DC24V DA4_REM DC24V
PJ52-2 GY PJ52-1 GY PJ53-1 GY PJ54-2 GY PJ54-1 GY PJ55-2 GY PJ55-1 GY
50 17-N

PJ1MC
DC24V DC24V GND GND DC24V DC24V GND
PJ7PU1-1 R PJ7PU1-2 R PJ52U1-1 GR PJ52U1-2 R PJ52U1-7 GR PJ10PU1-1 R PJ10PU1-2 R
52 22-D
60 22-E

PJ7PU1
PJ52U1
PJ10PU1

45 14-P GY PJ16MC-1B GY PJ16MC-2B GY PJ16MC-3B GY PJ16MC-4B GY PJ16MC-5B GY PJ16MC-6B
CN14
PJ23
PC10
Color PC Drum Main Sensor
PJ15
PC35
Color PC Drum Sub Sensor

CN15
PJ3
PC11
Bk PC Drum Main Sensor
PJ16
PC36
Bk PC Drum Sub Sensor

46 16-P GY PJ16MC-4A GY PJ16MC-5A GY PJ16MC-6A GY PJ16MC-7A
CN8
M3
Toner Supply Motor C/Bk

CN9
GY PJ16MC-8A GY PJ16MC-9A GY PJ16MC-10A GY PJ16MC-11A GY PJ16MC-12A GY PJ16MC-13A
CN39
M4
Toner Supply Motor Y/M

47 14-J Y PJ8MC-6B GY PJ8MC-7B GY PJ8MC-8B GY PJ8MC-9B GY PJ8MC-10B GR PJ8MC-11B
PJ4
Imaging Unit (C)

48 16-J Y PJ8MC-1A GY PJ8MC-2A GY PJ8MC-3A GY PJ8MC-4A GR PJ8MC-5A
PJ9
Imaging Unit (Y)

Y PJ8MC-7A GY PJ8MC-8A GY PJ8MC-9A GY PJ8MC-10A GY PJ8MC-11A GR PJ8MC-12A
PJ10
Imaging Unit (M)

CN33
49 16-P Y PJ10MC-1 Y PJ10MC-2 Y PJ10MC-3 GR PJ10MC-4
PJ51
R
Imaging Unit (K)

CN19
44 12-G GY PJ17MC-1B GY PJ17MC-2B GY PJ17MC-3B GY PJ17MC-4B GY PJ17MC-5B GY PJ17MC-6B GY PJ17MC-7B GY PJ17MC-8B GY PJ17MC-9B GY PJ17MC-10B GY PJ17MC-11B GY PJ17MC-12B GY PJ17MC-13B GY PJ17MC-14B
PJ35 PC23 Toner Near-Empty Sensor LED/C
PJ36 PC22 Toner Near-Empty Sensor LED/M
PJ37 PC21 Toner Near-Empty Sensor LED/Y
PJ38 PC24 Toner Near-Empty Sensor LED/Bk
PJ39 PC25 Toner Set Sensor/Y
PJ40 PC20 Toner Set Sensor/Bk
PJ29 PC17 Toner Near-Empty Sensor PQ/C
PJ30 PC16 Toner Near-Empty Sensor PQ/M
PJ31 PC15 Toner Near-Empty Sensor PQ/Y
PJ32 PC18 Toner Near-Empty Sensor PQ/Bk
PJ33 PC19 Toner Set Sensor/C
PJ34 PC26 Toner Set Sensor/M

43 12-T GY PJ17MC-1A GY PJ17MC-2A GY PJ17MC-3A GY PJ17MC-4A GY PJ17MC-5A GY PJ17MC-6A GY PJ17MC-7A GY PJ17MC-8A GY PJ17MC-9A GY PJ17MC-10A GY PJ17MC-11A GY PJ17MC-12A GY PJ17MC-13A GY PJ17MC-14A
CN18

POWER SUPPLY SECTION

PU1
DC Power Supply

51 11-H PJ13MC-12 GY PJ13MC-10 GY PJ13MC-9 GY PJ13MC-8 GY PJ13MC-7 GY PJ13MC-6 GY PJ13MC-5 GY PJ13MC-4 GY PJ13MC-3 GY PJ13MC-2 GY PJ13MC-1 GY
Interlock_DOOR N.C Toner_Empty MO1_LOCK Sleep_Out SW5(LOW) Zerocross H2_REM Heater_Power_Out H1_REM
PJ11PU1

53 19-M Y CN41-1 Y CN41-2 GR CN41-3 GR CN41-4 Y CN41-5 GR CN41-6
PJ8PU1
DC5V DC5V GND GND DC3.3V GND

54 16-M Y PJ1MC-7
55 26-M Y CN20-1
56 23-X GR PJ1MC-8 Y CN53-1 Y PJ5C-8
57 18-R Y PJ5C-7 R PJ5C-2 GR CN53-2 GR PJ5C-6 GR PJ5C-5 GR PJ5C-1
PJ10PU1
DC5V DC5V GND DC5V DC5V DC5V DC15V GND GND GND

52 16-M R PJ1MC-1 R PJ1MC-2 GR PJ1MC-3
PJ7PU1
DC24V DC24V GND

60 16-M GR PJ1MC-4 R PJ1MC-5 R PJ5C-4 R CN53-3 R CN53-5 R CN20-11 GR PJ1MC-6 GR PJ5C-3 GR CN53-4 GR CN53-6 GR CN20-5 GR PJ21-8 R PJ21-9
61 23-W
62 19-P
63 26-N
37 12-S
PJ5PU1
GND DC24V DC24V DC24V DC24V GND GND GND GND DC24V

58 26-K R CN42-1 R GR CN42-2 GR
20 7-Y
59 26-J
PJ6PU1
DC24V DC24V GND GND

PJ12PU1
M21_LOCK GND DC24V
Power Supply Cooling Fan Motor
M21
CN40

PJ15PU1
DC24V MO_LOCK GND DC5V
PJ16PU1
DC5V GND DC24V GND
PJ17PU1
DC5V GND DC24V M21_LOCK

64 12-F GY PJ13MC-11 GY PJ13MC-10 GY PJ13MC-9 GY PJ13MC-8 GY PJ13MC-7 GY PJ13MC-6 GY PJ13MC-5 GY PJ13MC-4 GY PJ13MC-3 GY PJ13MC-2 GY PJ13MC-1 GY
65 10-J Y PJ24MC-9 Y PJ24MC-8 GR PJ24MC-7 GR PJ24MC-6 GR PJ24MC-5 GR PJ24MC-4 GR PJ24MC-3 GR PJ24MC-2 GR PJ24MC-1 GR
66 16-N Y PJ1MC-9 GR CN17-2 GR CN17-1
3 4-K

68 24-P BK Y-G W
CN1
PG1
PG1
CN2

PJ1PU1
Z1
67 24-G BK SW1-2-1 BK SW5-1B BK W W SW1-2-2 W SW5-2B
3 4-G

PWB-LED
LED Drive Board
88 11-X
PJ1LED
B<W> A<BL>
W PJ02MFP-16A W PJ02MFP-15A GY PJ02MFP-13A GR PJ02MFP-12A OR PJ02MFP-11A PI PJ02MFP-10A Y PJ02MFP-9A Y PJ02MFP-8A W PJ02MFP-7A W PJ02MFP-6A W PJ02MFP-5A GY PJ02MFP-3A OR PJ02MFP-2A OR PJ02MFP-1A
PJ02MFP-16B OR PJ02MFP-15B OR PJ02MFP-14B PI PJ02MFP-13B PI PJ02MFP-12B Y PJ02MFP-11B Y PJ02MFP-10B W PJ02MFP-9B W PJ02MFP-8B GY PJ02MFP-7B GY PJ02MFP-6B OR PJ02MFP-5B OR PJ02MFP-4B PI PJ02MFP-3B PI PJ02MFP-2B Y PJ02MFP-1B Y

PJ5Y Flat Cable LPH Assy/Y LPH Y
PJ7M Flat Cable LPH Assy/M LPH M
PJ9C Flat Cable LPH Assy/C LPH C
PJ11Bk Flat Cable LPH Assy/Bk LPH Bk
PJ4Y Flat Cable
PJ6M Flat Cable
PJ8C Flat Cable
PJ10Bk Flat Cable

PJ2LED
53 22-B Y PJ8PU1-1 Y GR PJ8PU1-2 GR PJ8PU1-3 Y GR PJ8PU1-4 GR PJ8PU1-5
CN41
DC3.3V GND DC5V DC5V GND GND

OPTION

Tube
21 6-Z GY PJ8Z-1 GY PJ8Z-2 GY PJ8Z-3 GY PJ8Z-4 GY PJ8Z-5 GY PJ8Z-6 GY PJ8Z-7 GY PJ8Z-8 GY PJ8Z-9 GY PJ8Z-10 GY PJ8Z-11 GY PJ8Z-12 GY
CN71
CN16
PEM GND GND DC5V DC5V RTS Sin SOut CLK TCLK GND GND
59 22-F R PJ8PU1-1 R GR PJ8PU1-2 GR
CN49 CN28 CN30
DC24V GND
PC-101/PC-201
PC-401

71 22-U GY PJ2C-8 GY PJ2C-7 GY PJ2C-6 GY PJ2C-5 GY PJ2C-4 GY PJ2C-3 GY PJ2C-2 GY PJ2C-1 GY
CN52
DC5V TXD +8 DC5V RXD +7 Set DC5V ADF_Open SCEND N.C N.C
CN51
72 24-W R CN53-5 GR CN53-6
DC24V N.C N.C GND
58 22-F R PJ8PU1-1 R GR PJ8PU1-3 GR PJ7MC-1B GR PJ7MC-2B GR PJ7MC-3B GR PJ7MC-4B GR PJ7MC-5B GR PJ7MC-6B GR PJ7MC-7B GR PJ7MC-8B GR PJ7MC-9B GR PJ7MC-10B GR PJ7MC-11B GR PJ7MC-12B GR PJ7MC-13B GR
69 12-K
CN42
DC24V GND Dup_Door Dup_SET GND DC5V Dup_Turn_MCW/CCW+3 Dup_Turn_M_CLK Dup_Turn_M_REM Dup_Transport_M_CLK Dup_Transport_M_REM
CN43
Dup_JAM_Sensor Dup_Lead_Edge_Sensor Dup_Transport_M_Dup Dup_Turn_M_Dup F.G
AD-501

73 10-H GY PJ27MC-1 GY PJ27MC-2 GY PJ27MC-3 GY PJ27MC-4 GY PJ27MC-5 GY PJ27MC-6 GY PJ27MC-7 GY PJ27MC-8 GY PJ27MC-9 GY PJ27MC-10 GY
CN60
TXD +8 RXD +7 CS SI SO CLK GND DC5V DC5V GND
DF-601
55 22-C Y PJ10PU1-2 GY PJ2MC-8 GY PJ2MC-9 GY PJ7MC-10B GR PJ52U1-11 GR PJ2MC-12 GR PJ2MC-13 GR PJ2MC-14 GR
CN20
DC5V TXD +8 DC5V RXD +7 GND GND SEL ER
75 13-G

Fusing Drive Motor
Fusing Paper Loop Control Solenoid
Fusing Paper Loop Sensor
Tray1 Set Sensor
Tray1 Paper Empty Sensor
Tray1 CD Paper Size Sensor
*3 D.B.:Developing Bias
*4 I.T.:Image Transfer
*5 CC/CV:1/2 Current/Voltage Switching
*6 P.S.:Paper Separator
*7 RXD:Reception Data
*8 TXD:Transmission Data

TRANSPORT SECTION

Intermediate Transport Motor
OHP Sensor
Synchronizing Roller Sensor
Exit Sensor
Synchronizing Roller Clutch
Suction Fan Motor
Main Motor
Plug-In Counter (Option)
Tech. Rep. Setting Switches Board
Total Counter

2ND DRAWER SECTION

Tray2 Paper Near-Empty Sensor
Tray2 Lift-Up Motor
Tray2 Paper Feed Motor
Tray2 Vertical Transport Motor
Tray2 Door Set Sensor
Tray2 Vertical Transport Sensor
Tray2 Paper Take-Up Sensor
Tray2 Paper Empty Sensor
Tray2 Lift-Up Sensor
Tray2 CD Paper Size Sensor/S
Tray2 CD Paper Size Sensor/L
Tray2 Set Sensor
PWB-I2 Tray2 Paper Size Board
PWB-Z Tray2 Board

CF_CARD1 Memory Card CF
PWB-MFP MFP Control Board
DIMMSO Standard Memory
PJ03MFP
PJ04MFP VI-501 (Option)
PJ05MFP N.C
PJ07MFP N.C
PJ10MFP EK-501 (Option)
PJ11MFP HD-501 (Option)
DIMMS1 EM-301 (Option)
To PJ4MC

N P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13

TONER COLLECTING SECTION

- PJ49 / PC31 — Waste Toner Full Sensor
- PJ50 / PC32 — Waste Toner Bottle Set Sensor

IR・PH SECTION

- PJ42 / PC205 — Original Size Sensor FD3 (Option)
- PJ25 / PC204 — Original Size Sensor FD2
- PJ25 / PC203 — Original Size Sensor FD1 (Option)
- PJ12 / PC202 — Original Cover Angle Sensor
- PJ43 / PC207 — Original Size Sensor CD2 (Option)
- PJ14 / PC201 — Scanner Home Sensor
- PJ13 / PC206 — Original Size Sensor CD1
- SW201 — Size Reset Switch

PWB-C
Image Processing Board

PWB-A
CCD Sensor Board

Flat Cable

Imaging Unit (Bk)

Exposure Unit
FL201
Exposure Lamp

PU201
Inverter Board

Flat Cable

UN201
Control Panel

Flat Cable

Ferrite Core

Flat Cable

PWB-IC
Scanner Motor
Drive Board

Scanner Motor M201

Main Erase Lamp/Y — PJ52 LA1
Main Erase Lamp/M — PJ53 LA2
Main Erase Lamp/C — PJ54 LA3
Main Erase Lamp/Bk — PJ55 LA4

DT-105

FS-501/FS-601

VK-501

Paper Dehumidifying Heater (Option)

Power Switch

Temperature/Humidity Sensor — PC7

Left Door Switch — SW3

Front Door Switch — SW4

Right Door Switch — SW2

Counter/Bk — CNT1

Cooling Fan Motor/2 — M10

Ozone Ventilation Fan Motor — M18

Toner Suction Fan Motor — M20

DESCRIPTION
20 20-L
DESTINATION | LOCATION

- CLOSED END CONNECTORS LARGE
- CLOSED END CONNECTORS MEDIUM
- CLOSED END CONNECTORS SMALL
- POSITIVE LOCK RECEPTACLE #250 WITH HOUSING
- POSITIVE LOCK RECEPTACLE #187 WITH HOUSING
- OUTPUT OF ACTIVE LOW
- OUTPUT OF ACTIVE HIGH
- INPUT OF ACTIVE LOW
- INPUT OF ACTIVE HIGH
- OUTPUT OF ACTIVE HIGH OR LOW / INPUT OF ACTIVE HIGH OR LOW
- DC24V
- DC5V

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